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PROF. DAVID M. GREENE has been appointed Director of the Rensselaer Polytechnic Institute at Troy, N. Y. Prof. GREENE was, from 1855 to 1860, Professor of Geodesy and Road Engineering at the Institute. During the war, he was in the U. S. Navy and Professor of Steam Engineering at the U. S. Naval Academy at Annapolis. Since 1869 he has been engaged in the general practice of civil engineering, and for four years was Deputy State Engineer. Prof. GREENE's high professional reputation, and his intimate knowledge of the modern requirements of a technical school, give every assurance that under his direction the Renssalaer Institute, that for so many years has stood at the very head of the engineering institutions of America, will fully maintain this well-won distinction and develop the practical features that have placed its alumni at the head of most of our great engineering works.

SARTOR RESARTUS, OR THE SALTER SALTED.

An interesting case of "salt and battery" occurred a few weeks ago at one of the sampling and reduction works of Messrs. OLMSTED & BALLOU, near Georgetown, Colorado; and we are glad to say that our colleague, Gen. FRANCIS L. VINTON, who was in charge of the works, was able, by cool and prompt action, to detect and expose the rascally "salter." In the interest of public virtue and private satisfaction, we tell the tale.

As many of our readers are aware, the purchasers of ore in the Colorado silver regions receive a great deal in small lots; and each lot has to be sampled and assayed, as a basis of settlement with the vendor. A gross sample is taken by "quartering down" the entire lot, after it has been coarsely crushed. Then this is ground fine, and a smaller quantity is taken for assays, of which two are made, one by the assayer of each party.

In this case, a fine old specimen of the honest pioneer had brought a lot of fifteen tons, from which a sample had been taken for grinding. While this operation was in progress, and at a moment when both Gen. VINTON and the foreman had turned their backs, the enterprising owner "salted" the pulp by throwing into it a handful of rich galena. But he had not time to mix it thoroughly; and the foreman, returning, noticed the gray streak which it made on the otherwise uniform surface of lighter color.

Gen. VINTON'S attention being called to this pretty little phenomenon, he said nothing to betray to the culprit that his trick was discovered, but allowed the grinding to proceed to the end, took two samples, gave the miner one of them, and then declared that he was not satisfied with the sampling, and must begin all over again. The gentleman from underground felt his conscience hanging about the neck of his heart and making a coward of him (as Shakespeare remarks in two places). The occasion and the parties did not encourage a quarrel; so he submitted in uneasy silence while the sampling was repeated. When Gen. VINTON, giving him a second assay sample, cheerily remarked: "Now we'll both get 'em *all* assayed!" he departed, pensive and disgusted at the blank fuss over such a little lot of ore.

The mill assays were promptly made, and showed a difference between the two samples of 50 oz. of silver to the ton. The hardy miner was arrested; and the justice put him under bonds in the sum of $400 for appearance the next morning. But he couldn't appear in the morning, because he had disappeared in the night. Whenever he is caught, he may reckon on receiving an unadulterated sample of Colorado justice. It is but seldom that conclusive evidence can be obtained against this class of swindlers, and ten years in the penitentiary, as the sentence in a clear case, would have a salutary effect on many less clumsy thieves. *

THE ABERCARNE MINE EXPLOSION.

The telegraph brings us reports of another fearful explosion of fire-damp, this time in the Abercarne colliery of the Ebbw-Vale Steel, Iron, and Coal Company, in South Wales. The loss of life amounts to two hundred and fifty-one.

No cause is yet known for the explosion; but the fact that the colliery had to be worked, as so many in England are, with safety-lamps, shows that either the mine was normally in an unsafe condition, or it was subject to "blowers" of gas, which were liable to make it dangerous at any moment. We can not believe that it is impossible to so thoroughly ventilate any mine as to prevent explosions of this extent, and we consider the fact that a mine has to be worked throughout with safety-lamps a confession that it is imperfectly ventilated. A systematic method of laying out the mine and "draining" the gas from the coal through headings driven far in advance of the regular workings, would, with an efficient ventilation, altogether prevent, or at least greatly diminish, the number of these fearful catastrophes which have become so common in English mines.

"The pit, which is 330 yards deep, and one of the largest and best worked in the district, was yielding 1000 tons of steam-coal daily. The machinery for winding, pumping, and ventilating was of the best kind, and the use of safety-lamps in the mine was rigidly enforced. The cause of the explosion can not be even surmised. Three detonations were successively heard on the surface. The frame-work and castings of the pit were thrown to the height of 300 feet above the mouth of the shaft. The colliery employs upward of 1000 hands, of whom 373, taking their turn or 'shift,' went down at 11 o'clock in the morning. Twenty-one of this number came up at noon, up to which time nothing had occurred to create suspicion of danger. At 12.10 P.M. a loud rumbling noise was heard, quickly followed by a flash of flame from the pit's mouth, and a column of smoke, dust, and *débris* ascending high in the air. The explosion damaged the winding gear, thus destroying the only means of communication with the men in the pit. As soon as the gearing could be repaired, working parties were sent down the shaft, and 82 men and boys working within a few hundred yards of the shaft were rescued. But it became evident, as attempts were made to advance into the workings, that but little hope could be entertained of any life surviving. About 400 yards from the bottom of the shaft are the stables, and here 14 horses were found, all dead. Beyond this point the explorers could not go, on account of the impurity of the air and the prevalence of choke-damp. Volunteer explorers succeeded in bringing out 10 or 12 men very much burned, and also seven dead bodies. The whole district of Monmouthshire is very much excited, and it seemed last night as if the entire female population of the district had gathered about the mouth of the shaft.

"The full extent of the terrible disaster is now known. At 2.30 o'clock this morning the flooding of the pit was commenced. At that hour the fire was within a short distance of the bottom of the shaft, and all hope of further rescues had to be abandoned. When this decision was announced to the relatives of the 251 men still in the pit, the scene was terrible beyond description. Thirteen additional bodies of victims of the explosion were recovered before the flooding of the pit began."

THE MAGNETO-ELECTRIC LEAD-REFINING PROCESS.

Our recent comments upon Mr. KEITH'S new refining process, which this journal was the first to introduce to the public, proved sufficiently the interest and sympathy with which we regard it, as a most promising improvement in metallurgy. We are glad to hear that negotiations are in progress, looking to its employment in actual practice. Meanwhile, it is with a sincere desire to assist in making such an experiment thoroughly successful that we purpose to offer some further suggestions, and point out some practical difficulties which will have to be overcome.

The objects of desilverization and refining, as now practiced upon so-called "base bullion," are to separate silver and gold from the lead, to refine the latter to almost absolute purity, and to do this without loss of the precious metals. Mr. KEITH gives us strong grounds for expecting that his process will effect the separation of lead from a residuum containing the gold and silver in a manner both effective and cheap. In so doing, however, it leaves arsenic, antimony, and other impurities (except zinc) mixed with the gold and silver; and it may leave zinc in the lead. In the latter case, a further refining of the lead is necessary, since the market demands it pure. It is, however, the treatment of the argentauriferous residuum which seems to us to present the most difficult problem.

The elements of this mixture are probably all in the metallic state, and certainly in a very finely-divided condition. It has been said that in this condition simple drying of the slime and exposure to air would completely oxidize every thing except the precious metals. But the oxidation of arsenic and antimony is not so easily effected. Until convincing

proofs to the contrary have been presented, we must assume that a thorough roasting would be required. But this roasting, if performed upon the material just described, would involve frightful losses in silver, if not in gold also. Take, for instance, an average bullion containing 90 oz. of silver per ton. (Gold we will leave out of consideration.) The purest crude bullion made in the United States contains from 4 to 5 per cent of impurities, three-fourths of which is arsenic and antimony. The residuum from this bullion, after removing the lead by the electric process, would contain, therefore, in 100 parts, about 70 parts arsenic and antimony, 23 parts other dross, and 7 parts silver. The roasting of such a mixture would probably involve the loss of all the silver it contained.

What remedy for this trouble does the case permit? The first that suggests itself is the calcination of the bullion by running it down in a reverberatory, and thus oxidizing arsenic, antimony, and copper, before proceeding to the electric separation. This would eliminate perhaps four fifths of the deleterious elements; but the final residuum would still contain two parts of antimony, etc., for one of silver; and it would probably be necessary to melt it down with an excess of lead and cupel it. The protection which the bath of lead affords to the silver seems to be absolutely requisite to an economical treatment.

Now, the mere separation of the precious metals from lead does not cost much, even by the present process. We judge that it is performed for less than $8 per ton. What costs more is the treatment required to render the lead and the precious metals pure, without too great metallurgical losses. This the new process must also do, if it is to replace the old ones.

The resources of electro-metallurgy must be called upon for the means of solving this problem. It will not accomplish much if it leaves the metallurgist under the necessity of a previous calcination and a subsequent cupellation. We think it not unlikely that it may be found practicable to fuse the mixture of precious metals and impurities in a reducing atmosphere, and separate gold and silver by an electro-metallurgical process. Mr. KEITH has doubtless thought of this part of the subject, and we should be glad to hear from him on a point so directly important to the perfect metallurgical and economical success of his process. *

THE SILVER CONFERENCE.

The international conference on the remonetization of silver, which has recently closed its sittings in Paris, though sufficiently flattering to American patriotism, so far as the courtesy shown to this country and its representatives is concerned, was exceedingly disappointing to the expectations of those who anticipated, as a practical result, the agreement of the leading commercial nations upon a legal-tender ratio of gold and silver coinage. It was evident at the outset that the failure of Germany to take part in the deliberations would prevent any definite action on the part of her continental neighbors. As none of the delegates had power to bind their governments, the conference was purely a consultation; and even as a consultation it lacked the element of a common indecision and willingness to seek a common decision. It was a meeting of inquirers, each of whom had fully made up his own mind and was inquiring only as to the determination of the others. The United States led off, suggesting the wisdom of adopting the bi-metallic system, and adding that just before calling this conference she had already taken the step, and fixed the ratio which she now wished other nations to discuss with her. England followed, plainly reserving her right to adhere to her present system, just as in 1867 at the International Coinage Conference, the British delegates said that they would be glad to "confer," but that the coinage of Britain would not be changed. The sovereign must not be touched. Now, France remarks that she must be free to decide the question either way, as her interests may dictate, but is glad that the United States has "taken the initiative." In other words, if French interests are menaced by the surplus silver of Germany, it will be a blessing to have the United States opening its doors to let gold out and silver in. Holland and Switzerland practically declared for the present condition of affairs, Holland politely suggesting that the use of overvalued silver coin should properly be confined to nations in which this coin would be at least an improvement on the irredeemable paper currency with which they are cursed.

The New York *Tribune* says, in comment, that the moment is not opportune, and that bi-metallists must "learn to labor and to wait." Waiting will, in our judgment, not better the prospects of an international agreement such as has been dreamed of. It is not too early for that measure, as the *Tribune* seems to think, but too late. The civilized nations will never enter such an arrangement until they are simultaneously affected by the same evils, curable by the same remedy—and that remedy an arbitrary interference with the natural conditions regulating the value of the precious metals. In 1867 they were invited to agree upon nothing more than an international coin, which would not have affected at all the relations of the metals. Yet that comparatively small innovation was found impracticable. Why should we fancy that a far greater change would be more easily accepted?

The United States has no right to complain of the uncompromising obstinacy with which other nations met her in this professed consultation. She alone of them all had the opportunity to take advice before committing herself to a definite policy—to ask coöperation before placing herself in a position which, without coöperation, would prove inconvenient, if not disastrous, to her. Yet she made haste to act without waiting for light. Even the evidence before Senator JONES'S celebrated committee has not yet been published, though it was pretended to be necessary in order to guide legislation. The committee has indeed reported—that is to say, its individual members have subscribed different reports, according to the views they were respectively well known to entertain, before the inquiry began; so their reports were no news to any body. One point clearly brought out by the evidence before them was the necessity of coöperation with other nations, if the bi-metallic standard was to be maintained at all. But without waiting even for this and other facts collected by its own committee, Congress hurried through—not the Bland bill, which would have been an unmitigated evil, but an amended bill which is merely not bad because it is, so far, practically inoperative. And then, in irony or in burlesque, the President was instructed to invite other nations to a "conference!"

It must be admitted that these measures were not part of a deliberate scheme. They were the fruits of compromise, hesitation, and the alternations of parties. The JONES committee was appointed in part through the action of those who hoped by this means to secure delay, and calm the popular clamor. Then the Bland scheme was amended because, as was feared, at least, it could not be defeated outright. And finally, the International Conference, originally devised as another means of delay, was voted for, as a harmless *finale*, by both parties alike.

Many of those who foresaw the failure of this measure in its international aspect may have hoped for some good effect upon public sentiment at home from the light which it would throw upon the situation. This hope we shared. It may well be that the certainty thus obtained, that an international agreement is not practicable, will defeat the attempt which has been threatened, to secure unlimited coinage of silver. That the present law does not satisfy the inflationists is plain enough. Nor has it brought any relief to industry. It has facilitated a certain sort of resumption; that is to say, Secretary SHERMAN has been able to announce that he will redeem greenbacks on demand, in silver dollars, and he will have no trouble in so doing; for no one will prefer the silver. But resumption of any kind is not what our silver-dollar party desired. What they did desire, they have not got; and neither their prophecies of benefit, based on the Bland bill, nor their opponents' prophecies of evil, based on the same bill, have come to pass under this radically different measure. Hence it would be natural enough if they should renew the scheme they so nearly carried out before.

But unlimited coinage of silver could only co-exist with the continued circulation of gold by virtue of an international agreement. This truth is perceived by many bi-metallists who do not mean to have gold banished from the country. Such persons may be undeceived by the result of the late conference. Another cause which will operate even upon the unreasoning masses is the discovery, quickly made by the people, that the silver dollar is a nuisance. They do not want the coin, nor do they willingly use silver in large transactions. Nature indicates it as the suitable metal for a subsidiary coinage only; and this fact can not be got over unless our statesmen will give us a silver legal-tender dollar not much bigger than a gold one—a step which even the boldest of them have not yet proposed. It is quite true that in some countries people lug about silver yet; but it does not follow that we, whose fathers wisely stopped coining silver dollars, and who have learned by experience how much better we do without them, would willingly return to that inconvenience from which we once escaped, because some nations who have not escaped wear their fetters patiently. Germany has broken loose, and will not be captured again.

We think the demonstration already given, of the unpopularity of the silver dollar, is one reason why the demagogues are already renewing the greenback war-cry. As this movement gathers force, it is likely to sweep away the vestiges of the last "great popular uprising," and statesmen like Mr. BLAND, unless they make haste to the front, may find themselves far in the rear of the procession they fancied they were leading. If the dollar of the fathers should indeed, as now seems not impossible, be again gathered to the fathers, no stronger proof could be given of the hollowness of that trickery by which, for a little while, its superfluous ghost was raised, though it could not be made to walk. *

HOW FORTUNES ARE MADE IN SAN FRANCISCO.

The average Californian is a confirmed gambler. It makes no difference how often he may have "speculated" in mining stocks and lost his money, the passion, like that of the opium-eater or the drunkard, is all but incurable, and with the first sign of a "rise," he becomes frantic and launches his all upon another throw of the dice; for as stock speculating is carried on there, it scarcely differs from throwing dice. A few months

ago, some good deposits of ore were opened in the Bodie district, and the stocks of the fortunate mines rapidly increased in value. The success of one district was used to encourage hope in others, and accordingly the stocks of all the mines, whether paying or not, went up, with absolutely no cause whatever for the rise in most cases. The Sierra Nevada struck some good ore: the extent of the bonanza, so far as known at the beginning of this month, is fully explained elsewhere in our columns by a reliable and well-informed correspondent. There was nothing whatever to justify the valuation of the mine at any thing like par of the stock; but these sanguine speculators were ready to bet that the bonanza would turn out as large as, or larger than, that of the Consolidated Virginia and California, and consequently up the stock went, till, three days ago, it reached 220, or a value for the mine of $22,000,000. Since then, it has declined, till to-day it opened in San Francisco at 180, or only $18,000,000.

By reference to the following table, made up to the 12th inst., it will be seen that the market value—if sales were not washed—of 29 mines quoted on the San Francisco Board, which on the 16th of May was $23,492,560, on the 11th inst. was $77,005,825; or the holders of these stocks had apparently made more than fifty-three million dollars ($53,513,-265), or more than two hundred per cent on their investment.

With this sudden accession of wealth (for it is wealth to any one who can realize), it is scarcely surprising that the speculative fever has taken firm hold of the average 'Friscan, and every one is wild,—drunk with the excitement of making millions. It is unlikely that the values will decline to the low figures reached in May, for some real value has been found in several of the mines; but no doubt a great many millions will find their way, as the outcome of this last attack, from the pockets of the poor to those of the rich, making "the rich richer and the poor poorer." In the mean time "every thing is lovely," and 'Frisco is enjoying a season of "unexampled prosperity."

NAME OF COMPANY.	Quotation May 16, 1878.	Market value, May 16, 1878.	Quotation Sept. 11, 1878.	Market Value, Sept. 11, 1878.
Alpha	7⅝	$228,750	15¾	$472,500
Belcher	2¼	234,000	13⅛	1,365,000
Best & Belcher	11¼	1,134,000	28¾	1,898,000
Bullion	3	300,000	12½	1,212,500
Caledonia	1⅝	112,500	4⅛	412,500
California	*61⅛	3,307,500	11⅛	6,007,500
Chollar-Potosi	23⅛	658,000	46	1,288,000
Con. Virginia	†7½	4,050,000	13	7,020,000
Confidence	3½	87,360	8¾	218,000
Crown Point	3⅞	387,500	11⅛	1,112,500
Eureka	60	3,000,000	42	2,100,000
Exchequer	2⅛	212,500	6	600,000
Gould & Curry	4¼	459,000	17⅝	1,875,750
Grand Prize	3¾	375,000	5⅝	562,500
Hale & Norcross	5½	574,000	15⅞	1,778,000
Julia	5⅝	591,250	6	660,000
Justice	4	420,000	9⅞	1,036,875
Kentuck	2	60,000	6½	195,000
Mexican	7¾	781,200	56	5,644,000
Northern Belle	7½	375,000	9¾	487,500
Ophir	30¼	3,059,200	53	5,342,400
Overman	8¾	317,800	19¼	739,200
Raymond & Ely	4	120,000	4½	135,000
Silver Hill	1¼	135,000	3¾	405,000
Savage	8½	938,000	19	2,128,000
Sierra Nevada	2⅝	287,500	159	15,900,000
Union Consolidated	3⅛	337,500	113	11,300,000
Yellow Jacket	7⅝	885,000	25½	3,060,000
Bodie	1.30	65,000	‡41	2,050,000
		$23,492,560		$77,005,825

‡ On September 5th. † On July 25th. * On July 19th.

THE MODE OF COMBUSTION IN THE BLAST-FURNACE HEARTH.*

By Prof. John A. Church, Columbus, Ohio.

(*Concluded from page* 166.)

On entering the furnace, the blast is subjected to two forces, one of horizontal propulsion from the nozzle, and one of vertical propulsion, due to the fact that its point of discharge is placed above its point of entrance. Its path, the resultant of these two forces, is a curve. The combustion or abstraction of its oxygen takes place along this curved path, and in wide hearths filled with anthracite it is possible that the center or axis of the crucible may contain material that is merely incandescent, the air that reaches it not being rich enough to maintain the temperature of fusion. In charcoal furnaces this central portion would be hotter from the greater ability of the fuel to combine with oxygen when in a state of dilution.

The two examples drawn from anthracite and charcoal practice for the purpose of ascertaining the approximate superiority of charcoal when working under conditions nearly similar, do not fairly represent the possibilities of hard coal. Mr. WITHERBEE has given the Institute an instructive example of the economy which can be obtained from anthracite under conditions which are not at all favorable to economy. With an ore yielding about fifty-three per cent of pig-metal, and requiring 0·714 ton of limestone, he has reduced the item of fuel to 1·393 tons of anthracite, and recently, I believe, to about 1·2 tons. Mr. FIRMSTONE has obtained just as good results at Glendon. Under the circumstances, the practice in these two cases must be considered as good as that of the charcoal stacks, and a consideration of the methods by which this result has been obtained shows that they all point to one thing—increase of oxygen absorption in the hearth.

The improvement has been threefold—increase of height and capacity of the stack, increase of heat in the blast, and increase of capacity in the hearth.

The first two of these improvements raise the temperature of the two elements of combustion and thus assist their combination. The third lessens the velocity of the blast in the hearth, and thus increases the time of contact.

The present efficient means of heating the blast may enable the hard-coal furnaces to approach still nearer their rivals, especially as the charcoal men appear to be pretty near the end of their improvements. When a furnace produces a ton of pig-metal by the combustion of 17·68 cwt. of a fuel that has been proved to contain from 25 to 35 per cent of volatile matter, leaving say 13½ cwt. of carbon, the minimum can not be far off, even with ores that contain 62 per cent of iron and only fusible silicates for gangue.

When we consider the state of facts as they exist in the working of a furnace, we shall see that they support the views here advanced. Of the three solid materials charged into a furnace, two are fusible when brought in combination, and possibly they are so when subjected alone to the high heat of the hearth. They are the ore and the flux. The other, the fuel, is infusible. In its descent the ore becomes altered into iron sponge, which is probably not fusible at any point in the furnace, except at that zone where the freshly-formed carbonic oxide from the hearth meets the highly-heated sponge. When the gangue consists of fusible silicates, it is possible they may be melted out of the sponge above the zone of fusion, and thus the effectiveness of that zone be increased. But, at all events, at that point the iron itself melts, and all the fluid materials, running to the bottom, collect in the crucible, leaving nothing to fill the space above the bath and below the zone of fusion but the fuel. That can not be melted, and accumulates in the well until it is removed by combustion. It is perfectly evident that the height of this mass of fuel in a given furnace will depend upon the amount of oxygen burned in the well per second, the proportion of mine to the carbon in the fuel, and the relative fusibility of the gangue in the ore. Other things being equal, an infusible gangue-like quartz will give a lower column of fuel in the well than a fusible one like any of the silicates; for the reason that it may remain unmelted by the accumulation of heat in its descent through the furnace, and require the aid of freshly-formed carbonic oxide as the iron sponge does. The hot gas from the hearth will therefore not be able (unless increased in quantity) to produce fusion over so wide an area, when part of its heat goes to melt the gangue, as when it is free from that duty and has nothing but the iron sponge to melt.

There is, therefore, a double disadvantage in these infusible gangues. They take more heat to melt them, and consequently add to the fuel required, and they also reduce the column of fuel in the well, which lessens the contact of the blast with the fuel. If it is desired to restore the zone of fusion to the same height and area that it would have with a more fusible gangue, more fuel must be added.

Precisely the same result is produced by the use of a dense fuel, incapable of rapid combustion except in presence of a highly oxygenated blast. Less oxygen is consumed for a given height of the fuel column, less heat of course produced, and the area over which fusion can be maintained is again reduced, and the line of fusion falls down the sloping boshes until a proper balance is obtained between area and height.

The old notion of fusion "before the tuyeres," or anywhere in their neighborhood, is not to be entertained. Mr. JOHN F. BENNETT, in his admirable article on the "Construction of Blast-Furnaces," published in the *Metallurgical Review* for March, 1878, seems to be much nearer the truth in placing the zone of fusion about twelve feet from the sole, and eight feet or thereabouts above the tuyeres. (These dimensions are only approximate, and inferred from the drawings published with the article.) We must regard the blast-furnace as a fire fed with fuel and ore by means of a vertical tube raised over the fire-place, and in which the fuel finally separates from the ore and flux by virtue of its infusibility, and collects in one place.

It is always difficult to reason from a scientific explanation to matters of practice. But in the arts such reasoning is necessary, and it is also the best test of theory. It is therefore for the purpose of inviting criticism that I venture to indicate some of the points which are deducible from the foregoing generalizations. Some of these are well known and incorporated into the common practice, and are given here merely as reasonable explanations of known facts.

First, as to the manufacture of coke. Charcoal is acknowledged to be the best of fuels, anthracite the worst. Coke is an intermediate product, and, with strange perversity, we have always insisted upon making it as much like anthracite and as little like charcoal as possible. Coke, according to the authorities, must be hard, strong, ringing, and every thing else that charcoal is not, in order to win a good name. Having a good natural fuel and a bad one, we are determined upon imitating the bad one whenever we make an artificial combustible. Coke furnaces usually stand half-way between charcoal and anthracite in weight of fuel to the ton of pig-metal. Perhaps by making a lighter article, avoiding high heats in coking, and aiming to produce a porous, delicate, and easily-ignited coke, it may be possible for the coke furnace to draw near her charcoal sister in economy of fuel. In considering this innovation, it would be well to remember that the best charcoal practice is now had with a fuel that is *very* lightly burnt. As much as twenty-five and thirty per cent of gas is left in it, and some of the most successful managers take the half-burnt brands at full measure for coal, and encourage the burners to send them all in. It is under these conditions that the best charcoal practice is had in stacks of thirty-five to fifty feet height. The reason why a similar course has not been followed in coke practice is a mistaken notion that such fuel is not strong enough to carry the weight of the ore. But this chimera of "weak" fuel should be passed by as belonging to the traditional period of furnace management. We are now able to put reason in the place of myth, and rise above notions that have not one recorded fact to sustain them. The notion that fuels like charcoal and lightly-burnt coke "crush" in the furnace probably had its origin in

* From the *Transactions of the American Institute of Mining Engineers*. Read at the Chattanooga Meeting, May, 1878.

the presence of deposited carbon in blown-out furnaces. We now know that to be a chemical product, and just as abundant in an anthracite furnace as in any other. This mistaken idea has maintained itself with singular perversity, considering the fact that solid blocks of charcoal are known to fill the crucible, and have always been taken from the forehearth when furnaces with open hearths were in vogue.

A change in our ideas upon this subject may have the greatest effect upon the distribution of metallurgical operations in this country, and also upon our positive wealth. Coke is now carried from regions furnishing a strongly caking coal to districts at a great distance which are themselves underlaid by vast deposits of a drier coal, which the prevalent ideas on this subject forbid the furnace men to use. It makes a weaker coke, and therefore it will not "carry the burden." But this coal also yields a larger proportion of coke than its rival, as well as a coke of lighter texture. If new views on this important subject make it appear that this softer coke is better than the hard, there will be a double economy—a saving in coke and a larger yield from the coal.

Such a change in the sentiment upon coke-burning would be of great value to States like Ohio and others in the central coal fields, where the larger part of the coal is condemned as not being "metallurgical." Most of the thicker seams, which are necessarily the first to be worked, lie under this ban, and if it can be removed, the blast-furnace workers, as well as the miners, will be greatly benefited.

In advancing these views, I am not ignorant of the fact that the prevailing practice seems to controvert theory in the most conclusive manner, for the best practice is had with hard Connellsville coke, and the worst with soft coke from the interior coal basins. This is, of course, a very serious criticism upon the deduction I am making, but there are some considerations which lessen its effect.

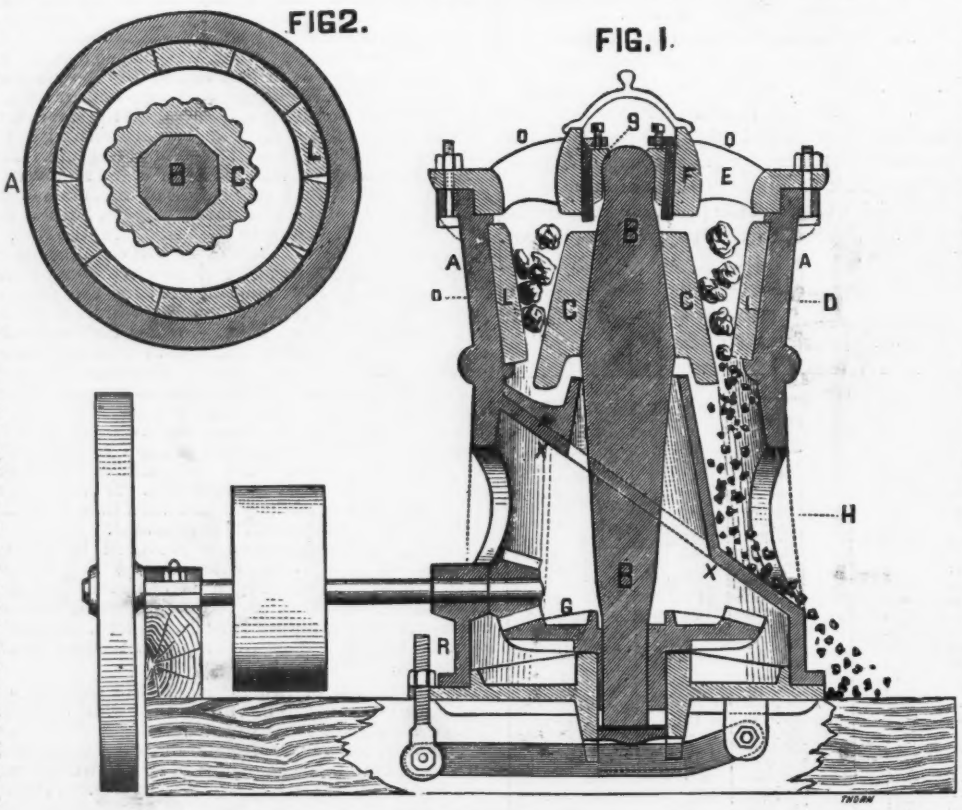
Most of the fuels from which these lighter cokes are made are quite slaty. Washing is not always resorted to, and when it is used, the necessary sizing is so much neglected that the light cokes are usually notorious for their heavy percentage of ash. The effects of a large quantity of ash in the coke are probably more serious than appear at first sight. Let us, for instance, consider the case of a coal with twenty per cent of ash. As before pointed out, the whole of this would reach the hearth without being fluxed. If the furnace burns fifty pounds of coke per minute, and consumes two pounds of carbon in the same time for reduction of the carbonic acid derived from the limestone, and if the coke originally contained ten per cent of volatile matter, there would be only thirty-three pounds of carbon and ten pounds of ash consumed per minute. The ash would require 5500 pound-units of heat for its fusion, less the heat already stored up. This would probably require one pound of carbon, and the remainder, or thirty-two pounds, would be all that would be effective in the zone of combustion.

The use of such a fuel would inevitably introduce irregularity into the working. In the upper part of the stack there would be a strong lime charge, which would be neutralized only when the lime cinder melted in the zone of fusion ran down, and mixed with the strongly siliceous cinder produced from the ash in the zone of combustion. With the present tendency to a high lime mixture in almost all furnaces, it is easy to see that wherever a large proportion of the silica is kept away from the base at the moment of fusion, as it is when the fuel contains so much ash, the charge must be excessively basic until it passes through the vital point of the furnace for fuel consumption—the zone of fusion. There all the evils of a high lime charge are experienced, even when the mixture taken as a whole will produce an average cinder. Excessive heat is required in order to get the lime cinder through the zone of fusion and into the crucible, but, that point once reached, the high temperature is no longer needed, and perhaps only tends to reduce silica.

Next, as to the form of the furnace. Any horizontal section through the boshes will vary in area according to its height above the well, and the zone of fusion, therefore, will vary in area with the height of the zone of combustion below it. With steep boshes the variation in area of the zone of fusion will be very great for slight changes in the height of the fuel column in the lower zone. It has already been pointed out that the height of the latter, and therefore the area of the former, are largely dependent upon the character of the ore and the composition of the charges, and it is quite conceivable that the effects of any variation in the materials charged may be concentrated upon these two zones. Some such explanation is needed to account for the very considerable perturbations in the working of the furnace, which sometimes follow additions to the burden that appear to be unimportant in themselves. On the other hand, the less the boshes are inclined from the vertical, the more restricted will be these changes in the area of fusion, and a more regular working should be expected. It is this fact which makes it an error to increase the greatest width of the furnace unless the parts below are so altered as to preserve the gentlest possible slope to the boshes.

Forms of hearth which increase the bulk of the fuel column in proportion to the area of fusion will, of course, extract the most oxygen from the air in its passage through this column to the zone of fusion. In the first form of the Soho furnace, according to Mr. BENNETT, the area of fusion was sixty square feet, and the cubic capacity below it was, as near as I can estimate it, 467 cubic feet; or, in the proportion of 1 to 7·8. In the second form of the furnace, the area was 120 square feet, and the bulk of the zone of combustion apparently 1050 cubic feet, or, as 1 to 8·75. This increase of capacity in the zone of combustion increased the stay of the blast in it by about twelve per cent. The consequent gain in oxygen absorption in this zone produced a saving of fuel which lessened the quantity of blast required, so that its retention in the zone of combustion was still further prolonged. Thus there were two sources of advantage which reacted upon each other until the total improvement appears to have been about forty per cent, for Mr. BENNETT says the blast-engine formerly made 33, and now 23 revolutions per minute. The saving in coke was fifteen bushels to the ton of pig.

The alterations of the Soho furnace were not confined to the hearth, but it can hardly be doubted that a large part of the improvement made in fuel economy and daily product must be credited to the provisions by which more perfect absorption of oxygen in the zone of combustion was secured.



BROWN'S ROCK-BREAKER AND ORE-CRUSHER.

THE DELAWARE SHIP CANAL.—The long-talked of ship-canal to connect Chesapeake Bay with Delaware Bay, and shorten the water route from Baltimore to New York and Europe some 225 miles, seems likely now to become a reality. The estimated cost of the canal—17 miles long, 100 feet wide, and 25 feet deep—is $4,000,000; and the promoters claim that the present commerce of Baltimore would give to the canal an income of $800,000 from the authorized rate of toll, 20 cents a ton. The canal is to follow the valley of the Sassafras, and be without locks.

BROWN'S ROCK-BREAKER AND ORE-CRUSHER.

The rock-breaker which we illustrate herewith offers many features of interest. It is claimed to be exceedingly effective, simple in construction, durable and economical, suitable for rocks of any hardness, and will crush to any size. We take the following description from a circular issued by the Gates & Scoville Iron Works, 52 S. Canal street, Chicago, which manufacture this crusher:

Fig. 1 is a vertical section through the center. Fig. 2 is a horizontal section on the line *D D*. In Fig. 1, *A A* represents an upright circular shell. This shell has an opening *H* on one side, for the egress of the crushed ore. *F* is a circular cap or cover. *B B* is an upright shaft, the upper end of which is pivoted with a ball or socket bearing. The lower end of the shaft is pivoted in the hub of a bevel-gear *G*. This gearing is placed in an eccentric position, with reference to the center of the hub. The breaking-head receives an eccentric gyratory motion from the eccentrically-placed bearing in the hub of the gear below, and advances successively toward every portion of the outer wall, crushing the ore between the two surfaces *L L* and *C C*, which are chilled faces.

The No. 1 weighs 7500 lbs., and, it is said, will crush 10 tons per hour. The No. 2 weighs 20,000 lbs., and has a capacity of 20 tons per hour. They cost respectively, $500 and $1200. We hope shortly to be able to give some results of actual work with these crushers.

PREVENTION FOR LEAD POISONING.—A remarkable case is given in the *Journal de Médecine* of the effect of the habitual use of milk in white-lead works. In some French lead mills it was observed that in a large working population two men who drank much milk daily were not affected by lead. On the general use of milk throughout the works, the colic vanished entirely. Each operative was given enough extra pay to buy a quart of milk a day. From 1868 to 1871, no cases of colic had occurred.—*Polytechnic Review.*

THE CREUSOT IRON-WORKS.

The Creusot Iron-Works, illustrated in our present number, have a pavilion to themselves, near the Porte de la Seine. In front of the building is an immense steam hammer, which has a force equal to 72,000 kilograms. In the interior is a block of steel weighing 110,000 kilograms, great plates for iron-clads, a marine engine of 2000 horse-power, destined for the man of-war, the Mitho, an elegant locomotive, a plan in relief of the famous Creusot Works, with particulars of the schools for 2150 children, and of the artisans' dwellings, besides many other interesting objects. The pavilion also contains a statue to EUGENE SCHNEIDER, the great engineer, to whom the modern organization of the vast iron-works is due.

A PAPER EXHIBITION.

A special exhibition of manufactures of paper, including machinery, chemical and other materials employed in the manufacture, and the manufactured products, is now in progress in Berlin, and is attracting wide-spread attention from its novelty and the surprising variety of the exhibits. It will be of interest to American readers to know from the catalogue of this exhibition that the United States heads the list of nations as a paper consumer, to wit:

Nation.	Population.	Kilos. consumed.	Kilos. per head
United States	39,000,000	535,000,000	14·0
Germany	43,000,000	244,000,000	6·0
England	33,000,000	168,000,000	5·0
France	37,000,000	138,000,000	3·6
Austro-Hungary	36,000,000	92,000,000	2·5
Russia	72,000,000 (?)	67,000,000	0·9
Italy	28,000,000	38,000,000	1·4
Scandinavia	6,000,000	3,000,000	0·5
Belgium	5,500,000	27,000,000	5·1
Switzerland	2,500,000	17,000,000	6·3

The foregoing figures are reproduced on the authority of the London *Times*.

It appears furthermore, from statistical pasteboard cubes of different size displayed in the Exhibition, that 600,000,000 men employ Chinese paper, 386,000,000 use the European, and 130,000,000 the Arabian product; 24,000,000 write on leaves, bark, and wood; and 280,000,000 dispense altogether with the luxury of reading and writing.—*Polytechnic Review.*

LIGHT WANTED AT SENECA FALLS, N. Y.—We note the statement that this place is in darkness, there being no money in the town treasury with which to light the lamps.

WYOMING VALLEY MINES, PA.

Special Correspondence of the Engineering and Mining Journal.

The mines are idle hereabouts, with few exceptions. Some of them are stopped probably from the effects of the great storm that passed over the valley the latter part of last week, particularly those of the D. and H. C. Co., at Plymouth, Nos. 4 and 5 shafts; the Bull Run Railroad having been pretty badly damaged by the rain-storm, carrying away nearly all the bridges on it that were above Plymouth. The storm came to the lower part of the valley about noon of the same day that it made such havoc in Scranton.

Avondale and Boston collieries, belonging to the D., L., and W. R.R. Co., have both been working very steadily this and last month, making full time. Prior to this, however, the Boston had been idle for five successive months.

The following mines, located in and around Plymouth, are now and have been idle:

The Jersey colliery of the D., L., and W. R.R. Co. has been operated but a few days since 1875, although the coal breaker was partially rebuilt in 1876. It is now stated that the coal that was to have been mined and prepared in the Jersey breaker is all to be taken out through Avondale shaft and prepared in that breaker, thus abandoning the Jersey mine and breaker.

The No. 1 Shaft, D. and H. C. Co.'s Breaker, was burnt down some time in 1876, and has not been rebuilt; hence it is lying idle, and likely to for some time to come at least. There is nothing doing there except keeping out the water. Don't know how it is about those gases, black damp, etc., that we hear of causing such fearful explosions, often resulting in great destruction of property and loss of life—whether they are kept out or not.

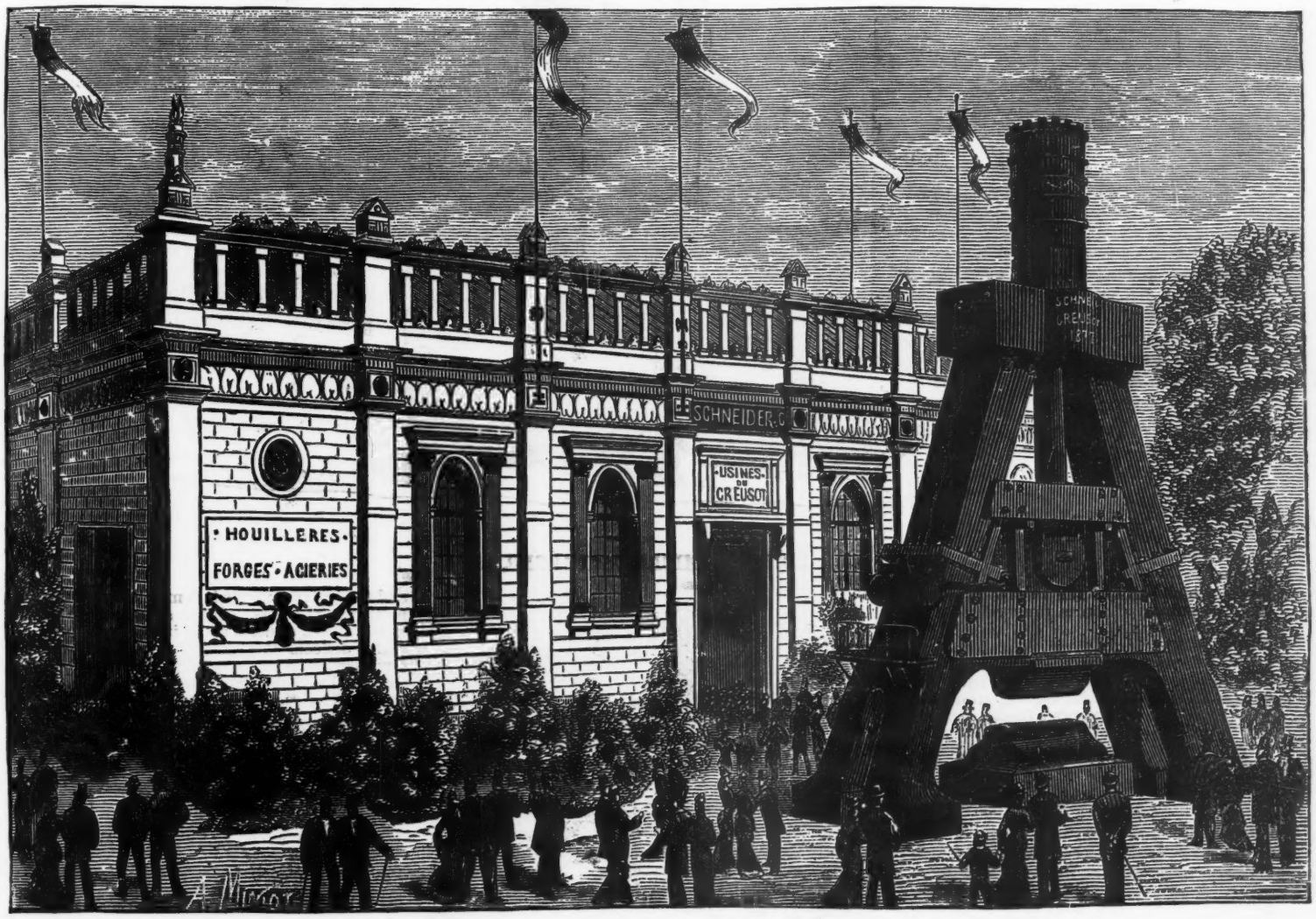
No. 3 Shaft, belonging to the same company, is also idle, having operated but very little since its completion. It is stated that they are about making a connection from No. 2 Shaft to No. 3 in one of their seams.

Lance Colliery, located in Plymouth, is also idle, being last operated by Messrs. CHARLES PARRISH & CO. Nothing has been done there for several months, and no signs now of any change. The water is kept out and a fan is kept running.

The Dodson Colliery, located also in the Plymouth, is idle, and has been so for several years. It is now rumored that it is to be started soon by a firm in New York; if not, then by Hon. J. J. SHONK himself, the land-owner.

SQUIB.

THE IRON RAILROAD BRIDGE over Watkins Glen is 450 in length and 150 feet above the stream.



THE PARIS EXPOSITION.—CREUSOT IRON-WORKS.

THE HUGHES MICROPHONE, OR THE EDISON MICRO-TASIMETER.

One of the latest of EDISON'S inventions, and perhaps the most interesting to physicists, is his micro-tasimeter, or measurer of infinitesimal pressure.

The thermopile, hitherto foremost among delicate indicators of changes of temperature, must now be consigned to the rear ranks, and the radiometer, which exhibits the motive power of the most subtile of forces, must retire in favor of an instrument that can weigh that force.

The micro-tasimeter is the outcome of Professor EDISON'S experiments with his carbon telephone. Having experimented with diaphragms of various thicknesses, he ascertained that the best results were secured by using the thicker diaphragms. At this stage he experienced a new difficulty. So sensitive was the carbon button to changes of condition, that the expansion of the rubber telephone handle rendered the instrument inarticulate, and finally inoperative. Iron handles were substituted with a similar result, but with the additional feature of musical and creaky tones distinctly audible in the receiving instrument. These sounds Professor EDISON attributed to the movement of the molecules of iron among themselves during expansion. He calls them "molecular music." To avoid these disturbances in the telephone, the handle was dispensed with; but it had done a great service in revealing the extreme sensitiveness of the carbon button, and this discovery opened the way for the invention of the new and wonderful instrument.

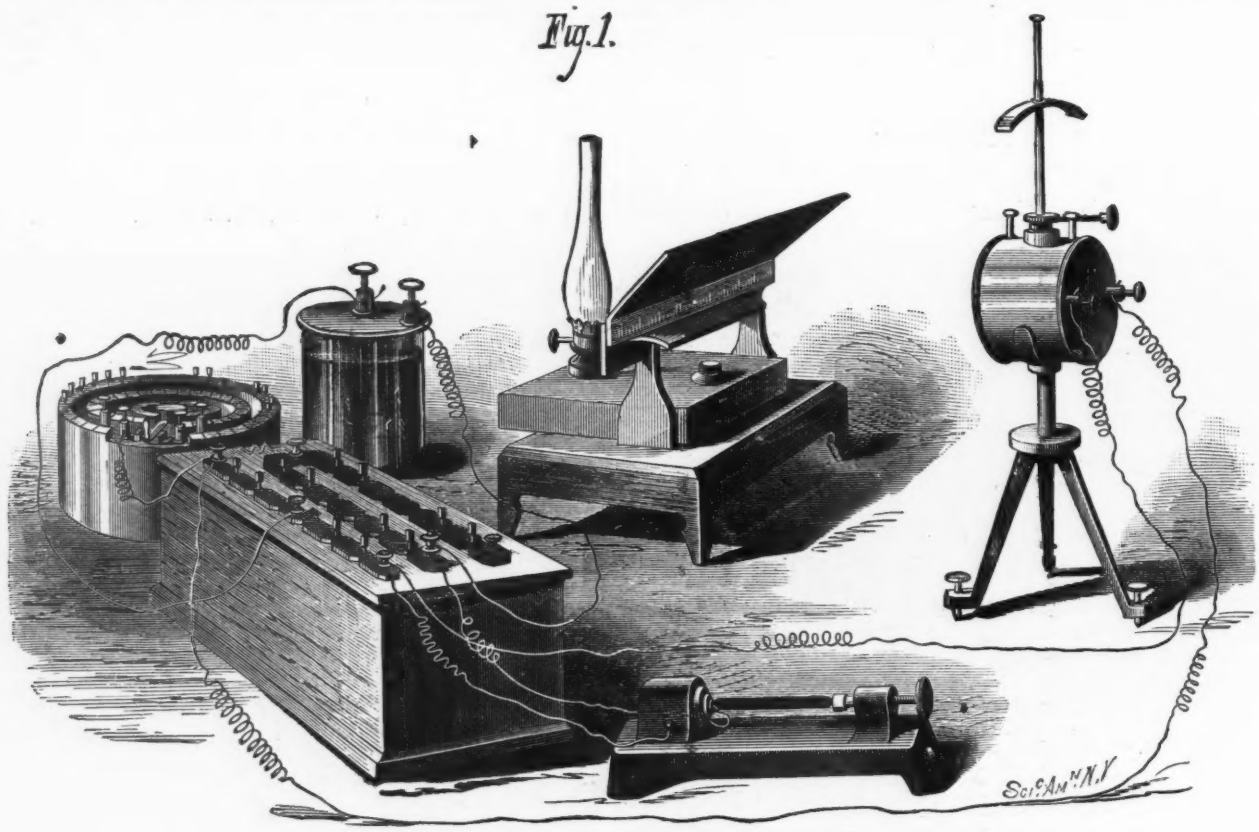
The micro-tasimeter is represented in perspective in Figs. 1 and 2, in section in Fig. 3, and the plan upon which it is arranged in the electric circuit is shown in Fig. 4.

The instrument consists essentially in a rigid iron frame for holding the carbon button, which is placed between two platinum surfaces, one of which is fixed and the other movable, and in a device for holding the object to be tested, so that the pressure resulting from the expansion of the object acts upon the carbon button.

Two stout posts, *A*, *B*, project from the rigid base piece *C*. A vulcanite disk *D* is secured to the post *A* by the platinum-headed screw *E*, the head of which rests in the bottom of a shallow circular cavity in the center of the disk. In this cavity, and in contact with the head of the screw *E*, the carbon button *F* is placed. Upon the outer face of the button there is a disk of platinum foil, which is in electrical communication with the battery. A metallic cup *G* is placed in contact with the platinum disk to receive one end of the strip of whatever material is employed to operate the instrument.

The post *B* is about four inches from the post *A*, and contains a screw-acted follower *H*, that carries a cup *I*, between which and the cup *G* is placed a strip of any substance whose expansibility it is desired to exhibit. The post *A* is in electrical communication with a galvanometer,

Fig. 1.



EDISON'S MICRO-TASIMETER.

Fig. 2.

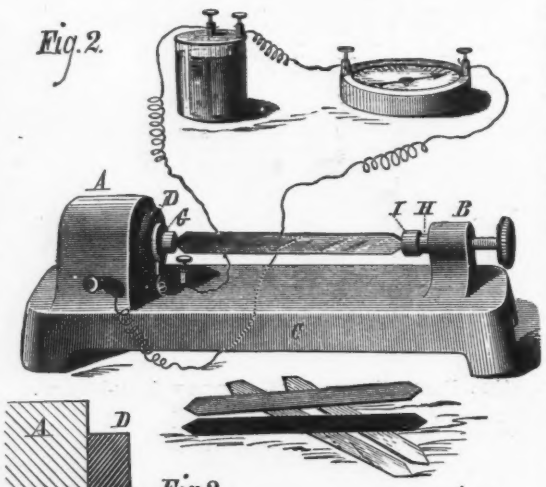


Fig. 3.

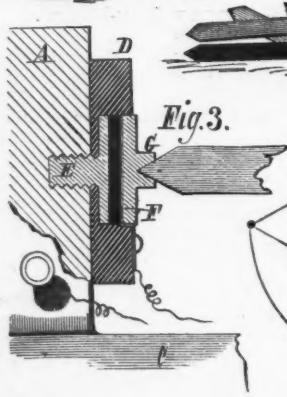
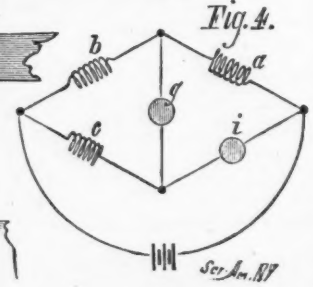


Fig. 4.



and the galvanometer is connected with the battery. The strip of the substance to be tested is put under a small initial pressure, which deflects the galvanometer needle a few degrees from the neutral point. When the needle comes to rest, its position is noted. The slightest subsequent expansion or contraction of the strip will be indicated by the movement of the galvanometer needle. A thin strip of hard rubber, placed in the instrument, exhibits extreme sensitiveness, being expanded by heat from the hand, so as to move through several degrees the needle of a very ordinary galvanometer, which is not affected in the slightest degree by a thermopile facing and near a red-hot iron. The hand, in this experiment, is held a few inches from the rubber strip. A strip of mica is sensibly affected by the heat of the hand, and a strip of gelatine, placed in the instrument, is instantly expanded by moisture from a dampened piece of paper held two or three inches away.

For these experiments the instrument is arranged as in Fig. 2, but for more delicate operations it is connected with a Thomson's reflecting galvanometer, and the current is regulated by a Wheatstone's bridge and a rheostat, so that the resistance on both sides of the galvanometer is equal, and the light-pencil from the reflector falls on 0° of the scale. This arrangement is shown in Fig. 1, and the principle is illustrated by the diagram, Fig. 4. Here the galvanometer is at *g*, and the instrument which is at *i* is adjusted, say, for example, to ten ohms resistance. At *a*, *b*, and *c*, the resistance is the same. An increase or diminution of the pressure on the carbon button by an infinitesimal expansion or contraction of the substance under test is indicated on the scale of the galvanometer.

The carbon button may be compared to a valve, for, when it is compressed in the slightest degree, its electrical conductivity is increased, and when it is allowed to expand, it partly loses its conducting power.

The heat from the hand, held 6 or 8 inches from a strip of vulcanite placed in the instrument—when arranged as last described—is sufficient to deflect the galvanometer mirror so as to throw the light-beam com-

pletely off the scale. A cold body placed near the vulcanite strip will carry the light-beam in the opposite direction.

Pressure that is inappreciable and undiscoverable by other means is distinctly indicated by this instrument.

Professor EDISON proposes to make application of the principle of this instrument to numberless purposes, among which are delicate thermometers, barometers, and hygrometers. He expects to indicate the heat of the stars and to weigh the light of the sun.—*Scientific American.*

OLIVER'S SCREW-HEADED KEY.

In the several figures in the engravings are represented different forms of a novel key for fastening the bosses of wheels, levers, couplings, etc., to their shafts. The novel feature of the key is its head, which is made upon here. Any device which can simplify the extraction of keys from machinery, must prove of considerable value to the manufacturer, and no small amount of comfort to the mechanic.

In factories where explosive material is used or manufactured, as, for example, in powder-mills, it is of especial advantage, as there can be no danger of explosion, as no blows or friction are required to remove the key, consequently no spark can be produced.

In Fig. 6, *H* is the hub of pulley or wheel, *S* the shaft, *K* the key by which the pulley is fastened. This is a case where the shaft extends 1 to 2 inches beyond the face of the hub. The head of the key is made smaller than usual, and enough is cut out of the shaft to admit of shank *C* of nut *N* to screw on to head of key. Washers enough are put against hub of wheel to fill up necessary space, usually a U-shaped piece of iron first and a washer upon that. After a key has been drawn an inch, it can usually

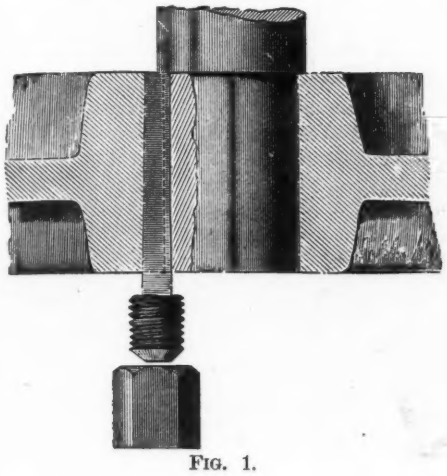


FIG. 1.

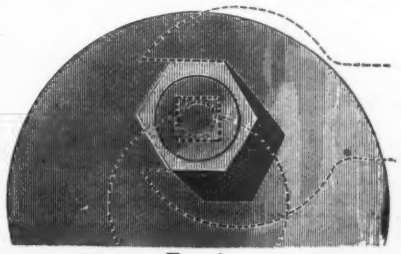


FIG. 2.

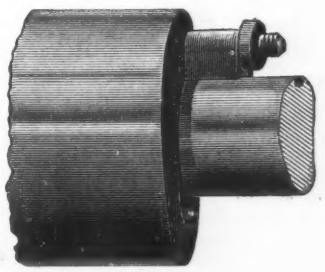


FIG. 3.

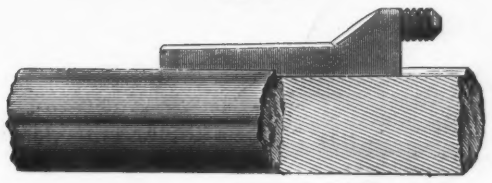


FIG. 4.

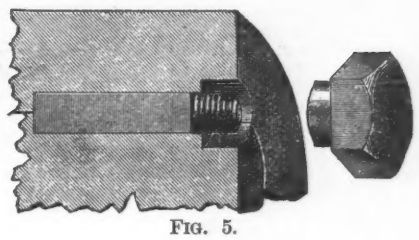


FIG. 5.

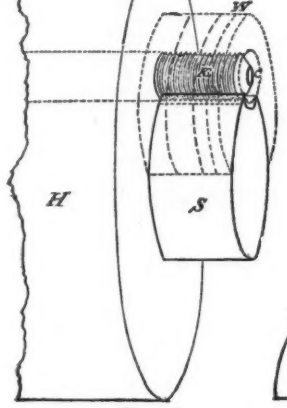


FIG. 6.

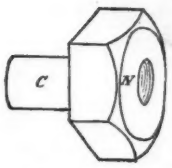


FIG. 6.

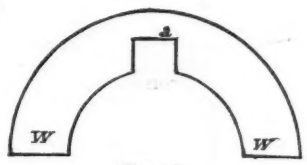


FIG. 8.

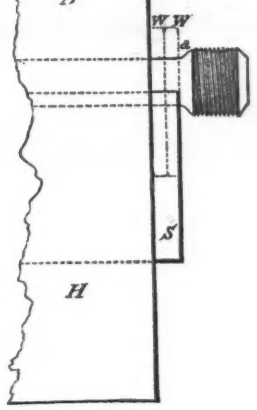


FIG. 7.

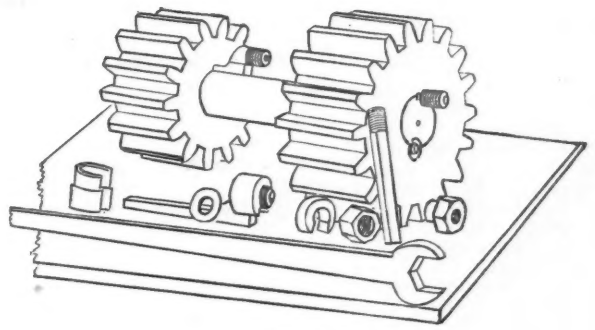


FIG. 11.

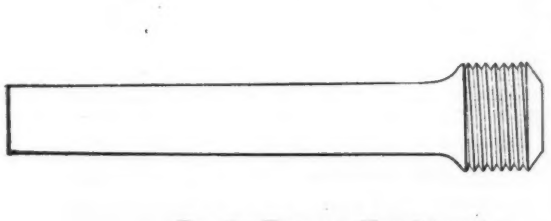


FIG. 9.—KEY AND NUT (½ SIZE).

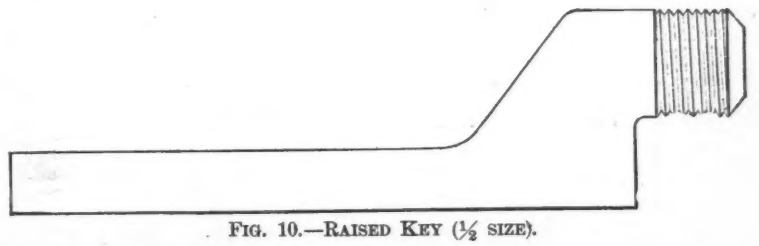


FIG. 10.—RAISED KEY (½ SIZE).

OLIVER'S SCREW-HEADED KEY.

cylindrical, and is threaded to receive the nut by which it is drawn from its seat. Where the key has its seat in the end of a shaft, as in Fig. 1, it is made straight, and the threaded portion is larger in diameter than the body of the key, to allow the nut to pass over it as the key is drawn out. In cases where a projecting head would be objectionable, the boss and shaft may be counterbored, as in Fig. 5, so that the end of the key will be even with the end of the shaft. When a key of this sort is to be removed, a nut with a shoulder is used as shown, and the washers are placed necessarily between the shoulder and the face of the hub or wheel—the key being drawn out each time the thickness of the washer.

When the key is used on a line shaft, its head is offset, as shown in Figs. 3 and 4, to admit of receiving the nut. When the key is to be removed a U-shaped piece is slipped over its outer end to form an abutment for the nut to work against. A key having a head of the ordinary form is liable to break under severe stress, and thereby involve considerable labor in drilling it out. And when a key is removed by means of a drift applied to its thinner end, the successive blows are apt to upset it and increase the difficulty of removing it.

The difficulty and delay experienced in removing keys are so well known by manufacturers, as well as by every mechanic, that they need not be commented upon here. Any device which can simplify the extraction of keys from machinery, must prove of considerable value to the manufacturer, and no small amount of comfort to the mechanic.

In factories where explosive material is used or manufactured, as, for example, in powder-mills, it is of especial advantage, as there can be no danger of explosion, as no blows or friction are required to remove the key, consequently no spark can be produced.

In Fig. 6, *H* is the hub of pulley or wheel, *S* the shaft, *K* the key by which the pulley is fastened. This is a case where the shaft extends 1 to 2 inches beyond the face of the hub. The head of the key is made smaller than usual, and enough is cut out of the shaft to admit of shank *C* of nut *N* to screw on to head of key. Washers enough are put against hub of wheel to fill up necessary space, usually a U-shaped piece of iron first and a washer upon that. After a key has been drawn an inch, it can usually be pulled out with very little effort. The dotted lines at *W* show how the U-shaped piece would fit on.

In Fig. 7, *H* is the hub of any wheel or pulley. *S* represents the shaft to which it is fastened by *K*, the key. *W W* are two washers placed against the hub to make the face of hub *H* even with shaft *S*. Fig. 8 shows one of these washers.

This invention was recently patented by Mr. PAUL A. OLIVER, of Wilkes-Barre, Pa., from whom further information may be obtained.

CORRESPONDENCE.

THE MISSISSIPPI JETTIES.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: Your editorial entitled "Physics and Hydraulics of the Mississippi" suggests some facts pertinent to the subject which your Western readers will thank you to reproduce in your practical, as well as scientific, journal.

The public generally will not be interested in the perusal of the reports of Generals HUMPHREYS and ABBOTT, recently republished by the govern-

ment, nor of the review of that report by Mr. JAMES B. EADS, nor with your criticism of the latter report—all of which are learnedly treated.

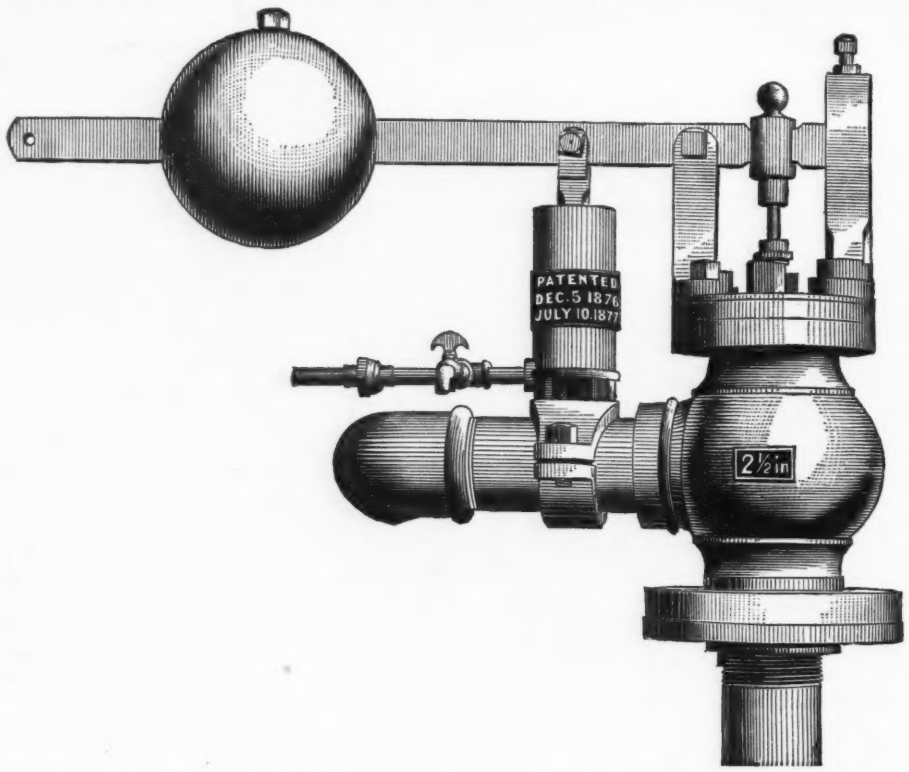
More than at any former period the people are less anxious about the manner of obtaining any given result. The average American demands the net product of every operation, by the shortest cut, no matter by what rule. The Eads jetties are recognized and acknowledged as a present success; and there is no dispute as to who projected them. The engineer corps of the army has been engaged along the Mississippi and its tributaries for at least a quarter of a century. Suddenly, a civil engineer of humble origin, but of unquestioned distinction, proposes to improve the mouth of the Mississippi. It is accepted and aided by the government. And now, while the Engineer Corps would discuss the work of EADS, the people are only interested in the actual deepened channel, no matter how it was done.

Emperor DOM PEDRO thanks citizen EADS for his work, even in the face of opposing criticisms. The commercial world gratefully acknowledges the accomplished fact. Especially do the cotton and grain growers of our great valley applaud our EADS. C. C. GARDINER.

ST. LOUIS, Sept. 10, 1878.

THE CLAYTON-STEEL AIR-GOVERNOR.

The accompanying engraving represents a new form of governor for air-compressors and air-pumps. This machine consists of a piston working inside an air-cylinder and connected by a lever to a balance valve. This lever is weighted to any desired pressure, and operates to turn off the steam from the steam-cylinder when the air-pressure rises too high, and turns on more steam when the air-pressure goes down.



This governor is the invention of Mr. STEEL, who has assigned the exclusive right to manufacture it to Mr. JAMES CLAYTON, of this city, the well-known maker of the "Clayton Air-Compressor," and the "Clayton Steam-Pump," which have already been illustrated in these columns.

It is claimed that this air-governor is so effective that the same pressure can be constantly maintained without moving the throttle-valve of the engine—the amount of pressure being immaterial. As an adjunct to the blowing engines of blast and other metallurgical furnaces, where the maintenance of uniform pressure is desirable, this governor should effect very considerable economies, and secure a more uniform product. Though specially designed for use on the Clayton Air-Compressor, it can be adapted equally to those of any other pattern.

ELECTRIC SPARKS.

About 14,000 telephones had been introduced into the United States up to the close of the year 1877, and the manufacturers are receiving orders at the rate of about a thousand per month.—The *Telegraphic Journal* congratulates its readers upon the fact that the Bell Telephone Company, of London, has lowered the price and rental of telephones in England.—M. du Moncel lately noticed, at a meeting of the French Academy, the fact that if any part of the telephone circuit wire be scratched, a feeble grating sound will be heard in the instrument, which becomes more intense as the part of the wire scratched approaches the telephone. That the effect was not mechanical, was shown by the fact that, when the circuit was broken, the sound was not observable. This observation, M. du Moncel thinks, may throw some light upon the confusion of sounds heard in telephones connected in circuit with the ordinary telegraph lines.—The same author makes a microphone for transmitting speech, of a box lined at one end with zinc, and at the other with copper, and containing a layer of fragments of gas carbon steeped in water.—By a multiplying lever arrangement and marker, Professors Jenkins and Ewing obtain current waves representing the path of an air particle in sound waves from the phonograph record. Curves of "visible speech," 400 times the size of those imprinted on the phonograph foil, are thus obtained.—Mr. Edison has made some experiments with a view to accomplishing the reading of the phonograph record by sight; but although a fundamental form exists for each articulated sound, he finds it very difficult to free the record from what might be called accidental influences; for so sensitive are these markings that the same sound uttered by different persons, or the manner in which it is spoken, the distance of the mouth from the instrument, the force with which it is spoken, or the speed with which the barrel is rotated, gives a different form of indentation. Vowel sounds appear to be but little affected by these variations as compared with consonants.—So soon as we shall have been able to establish the constancy of the phonograph record, and to read the markings by sight, it will doubtless be proper to carry into effect Mr. J. Munro's suggestion, that phonographic type be cast of all the phonographic syllables used in speech, so that a phonographic matrix may be composed just as a printer's page is now composed. As these types could be set up mechanically and read, it would do away with the necessity of multiplying the phonographic record by electrotyping or repeatedly speaking into the instrument.—M. Ducretet has applied Marey's pneumatic tube vibration-transmitter for the construction of a *stethoscopic* microphone. The *Telegraphic Journal* describes the apparatus to consist of a flexible India-rubber pipe connecting two small drums, or closed air-chambers with convex lens-shaped membranes, so that when one of the membranes is pressed against the pulse, the other will pulsate in union with the transmitted air-vibrations. The author makes use of the apparatus by resting one of the lens-shaped membranes upon the upper contact of a pencil microphone, leaving the other drum free to be applied to the pulse, the lungs, heart, or other organs of the body.—It is reported that no less than 18 different forms of electrical lamps, exclusive of Jablochkoff's candle, are on exhibition at Paris. The Lontin electric light was lately given an experimental trial at the Gaiety Theater, of London. It is said to have been successful, and also, that this apparatus accomplishes very satisfactorily what is one of the great difficulties in the way of the general application of electric lighting—the division of the light. Over 300 electric candles are lighted nightly in Paris.—The Metropolitan Board of Works is said to be seriously contemplating the illumination of the Thames embankment by the electric light.—The *Scientific American* reports that among the novelties to be seen at the Paris Exhibition is a series of specimens of electro-plated human brains, contributed by Prof. Ore, of the Bordeaux School of Medicine. Dr. Ore, it appears, has applied galvano-plasty for purposes of preservation to the brains of men and animals, and has obtained, our authority states, very remarkable results, the external surface presenting the hard, brilliant surface of a metal, while the inner substance assumes the consistency of mastic, and is quite unalterable.—Another novelty at the Exhibition is the exhibit of the Gray Harmonic Telegraph in operation, connected up with the Morse instrument, so that the vibratory telephone messages are sent simultaneously with the Morse messages, as indicated by Varley's patent.—A body of English engineers is already on its way to Cyprus, to erect military lines of telegraph there, and the *Telegraphic Journal* reports that arrangements are being made for laying a cable to connect the island with the Eastern Telegraph Company's Mediterranean system.—The efforts of the Anglo-American Telegraph Company's steamers Seine and Calabria to repair the 1866 Atlantic cable were not successful. The cable was several times hooked, but the iron sheathing had become so weakened by rusting that it could not bear the stress of raising the cable to the surface.—*Polytechnic Review.*

NEW PATENTS.

The following is a list of the new inventions relating to Iron, Coal, Mining Machinery, Chemical Apparatus, and the treating of Precious Metals, etc., from *The Official Gazette of the United States Patent Office* for the week ending July 16th:

No. of Patent.	*Title of Invention.*	*Name of Inventor.*	*Residence.*
205,945	Metal-Rolling Machinery	Peleg S. Bradford	Bridgewater, Mass.
205,962	Electric Lights	Philip O. Jenkins	Washington, D. C.
205,979	Steam-Boilers	Paul F. Semonin	Louisville, Ky.
205,980	Manufacture of Iron and Steel	Charles W. Siemens	Westminster, Eng.
206,018	Apparatus for Transmitting Power and Motion	Carl L. Henrich	San Francisco, Cal.
206,048	Pumps	Frank Shollar (a)	Otsego Lake, Mich.
206,053	Processes for the Manufacture of Gas	William J. Taylor	Chester, N. J.
206,054	Steam Jet Pumps	Hanson P. Tenant (b)	E. Germantown, Ind.
206,065	Rotary Water Meters	Nathan B. Acheson	Youngstown, O.
206,067	Feed Screws and Nuts for Rock Drills, etc.	Robert Allison	Port Carbon, Pa.
206,084	Magneto-Electric and Electro-Magnetic Machines	Emil Burgin	New York, N. Y.
206,101	Air-Exhausters for Coal Mines	T. W. Flynn	Pottsville, Pa.

(a) Assignor ½ his right to Albert M. Hilton, same place.
(b) Assignor to Kerrick & Winegardner, Indianapolis, Ind.

THE METRIC SYSTEM.—PARIS, September 5.—The International Congress on weights, measures, and coins yesterday unanimously adopted a resolution deploring the fact that England, Russia, and the United States had not yet adopted the metric system. American and English delegates afterward passed a resolution petitioning the English and American governments to appoint a mixed commission to consider the adoption of the system by both countries.

COLORADO MINES—THE HUKILL.

Special Correspondence of the Engineering and Mining Journal.

Had your correspondent not been previously informed of the importance of Idaho Springs as a mining town and fashionable watering place, he never would have suspected it, judging from the first glimpses of the town one gets approaching by rail; for the road passes along at the back doors of the dwellings that line one of the principal streets, and the aspect is not prepossessing in the extreme. Neither is the small railroad depot calculated to make a very formidable impression, with its little "6×9" room, hardly big enough to swing a cat in; and how the agent can receive and check all the baggage and express matter, sell tickets, run a freight office and two telegraph lines, all within those narrow limits, and keep his equanimity of temper, is more than we can understand. He is no relation of the angel Gabriel's, either, from what we saw of him, though a very efficient agent and good fellow. Not even a side-track in sight, either, to stand cars on to load or unload. We wondered how the business we had heard about could be done. Surely they did not stop trains while they loaded and unloaded cars? We ascertained afterward that the side-track and freight depot are located about a mile up the valley, in the most inconvenient place imaginable, veritably "a mile away from anywhere." The railroad folks say that they built up there because no one would donate lots enough in town to put up a freight depot and side-track, so we presume they take their little revenge by making folks pay for their lack of generosity by obliging them to haul an extra mile. Monopoly, thy motto is, "Heads I win, tails you lose."

We had, however, caught a glimpse of Seaton Hill to the north as we steamed up, with its large white dumps, which told of delving miners' work, and over there from the depot to the south we could see at the mouth of Chicago gulch the rushing white stream from a little giant nozzle that told of search for the yellow dross called gold.

So we felt sure there was something to see if we only searched, and therefore stopped off. We were not a little surprised to find the leading hotel, the Beebee House, quite a fashionable and first-rate hostelry, charmingly surrounded by shade trees, well kept and cleanly rooms, and the best table that we have found in the mountains. Free carriage to the hot baths, wherein we indulged, loth to lose the opportunity, and can pronounce them a complete success. Inquiry soon revealed the fact that Idaho Springs had not escaped the general historical experience of all mining camps that have any genuine intrinsic value, namely, general rush and stampede; mushroom growth; terrible trouble; "busted," hip and thigh; long sleep; slow awakening, and now a steady and probably permanent growth. In the early day, all the mining was for gold, and there was plenty of it found too (and not such a very little now even), while silver and lode mining were not thought of, or neglected to a great extent. But when the "Seaton" and "Hukill" and others began to "pan out" so well in both metals, lode mining took the lead, and it is now the principal feature of the industry. After a brief sketch of the location of the town, we will endeavor to mention the mines in their successive order of merit, more with reference to the method and manner and magnitude of their present working and development and business done than as wishing to make very marked distinctions between one mine and another, only in so far as the differences are beyond question. Mine-owners are often quite sensitive about their properties, and sometimes we are half inclined to regret that the JOURNAL insists upon our adhering so closely to the *facts;* not that misrepresentation is a favorite pastime with us, but so that we need not be obliged to ask so *many* questions!

Idaho Springs is one of the most pleasantly located towns it has been our pleasure to visit in the Rockies. It nestles close under the lee of the high steeps that protect it from the north winds, while to the southward rise the "Chief," "Squaw," and "Pappoose" peaks, covered with a luxurious growth of spruce and pine, and from the same general direction Chicago Creek comes down to join its limpid, trout-filled waters with Clear Creek, which latter runs west and east. The town is really situated in Clear Creek Cañon, but here the cañon spreads out its mighty walls till the wooded hills remind one of the Catskills, and the horizon is more extended than in any other part of the cañon. The air is balmy and delightful. It is a wonder to me that so many travelers and pleasure-seekers will rush off to Saratoga and the Hot Baths in Arkansas, and swelter and stew and simmer, while up here, 7500 feet above the sea, they can keep delightfully cool these hot months, and derive great benefit from the hot baths and delicious mineral waters. But to the mines. The steady growth and gigantic strides made in some instances, by the mines of Clear Creek County during the past three or four years, would astonish even the most skeptical, could they have occasion to observe it as those here do. Most of the failures in mines in this county since mining first began here are attributable to ignorance and gross neglect—ignorance in not understanding the requirements of a mining business, and neglect in owners not giving that attention to their properties which they would to the most ordinary business. Is it reasonable to suppose that a business which, in order to have a marketable product at all, it is necessary to go at with hammer and steel and powder, will run itself any more than any other business? The popular Eastern idea seems to be that it is only necessary to become possessed of so many hundred feet of a gold or silver lode or vein, in order to reap the richest kind of a harvest. We wish we could pound it into the heads of those people that this is a fallacy, and that any body who stuffs them with such ideas is a deliberate and designing misrepresenter, to put it as mildly as possible. Gold and silver ores lie buried mostly in hard adamantine rock, which it is necessary to break down in order to get at it. To make it pay, in 99 cases out of 100, it is necessary to open up the lode or vein by drifts or tunnels or shafts, in such a way that the ore can be easily gotten at, and mined out. It has got to be an *extraordinarily* good mine (one in ten thousand) from which ore enough can be extracted in running or sinking said drifts or shafts to pay for the work done, *i. e.*, the development or opening up of the mine. Therefore, such work is called "dead-work," which means that nothing is expected from it, and every mine in the world that amounts to any thing as a *mine* in the long run has *got* to be opened up by dead-work, and some require more, others less, before they are put in paying condition. Our English cousins are considered about the best miners in the world. Do they make mining pay? It is one of England's mightiest means of power and wealth—her mines. And yet an Englishman hardly expects to realize any thing from a mine until he has spent from $100,000 to $500,000 in developing it so that he can get at the ore in quantities, and economically. And yet we Americans get disgusted and afraid if we do not realize *immediate and large* results. We spend a dollar, and expect to take out five right off. Our English cousin spends ten dollars, and is well satisfied with a net result of one dollar—10 per cent. That's good interest, surely, compared to 2, 4, and 5 per cent! You might as well attempt to build a $100,000 cotton-mill with $10,000, as to get a big mine with the same proportion of outlay. We mention the above because we purpose to speak of some among the mines in this vicinity that are worked on the two principles—"cheap, for quick money," and "development, for sure and steady profit," and making comparisons.

"Have you seen the

HUKILL?"

we were asked upon our return from a day's tramp. Oh! yes; we had seen the Hukill, of course. (It was mentioned to us as one of, if not *the* largest.) We really were disappointed in the Hukill; it did not come up to our expectations at all; the truth is, the trouble lay with us and not with the mine. Like a good many who derive their knowledge from hearsay and those interested in passing derogatory opinions upon every thing that does not belong to them (and there is a terrible lot of that done out here about the mines without the slightest regard for truth), we had come to the belief that the Hukill was rather a poor stick of a mine, at best. We had heard that the former owner had gotten into some sort of a "mess" with the property, and naturally we jumped at the conclusion that the mine was at fault. The busy noise of the mill, however, as we approached, the cars of ore coming out of the mine, the railroad cars standing on the side-track loaded with sacked ore, etc., made us prick up our ears considerably (they are long enough, dear knows!); and still greater was our astonishment upon getting an inside glance at things in general. Without wishing to flatter in any way, we certainly can not refrain from acknowledging to most courteous attention, from the Superintendent down, including Mr. ANDREW STEVENS, the foreman of the mine, and Mr. CHARLES COLLOM, the builder and foreman of the mill.

"Could we see the mine and the works?" "Certainly, with pleasure." (Favorable impression No. 2; nothing to conceal!)

Stepping out from the office, where all "frills" and "style" in the shape of elegant appointments are sacrificed to the plain business necessities of a few articles of furniture, we beheld some thousand tons of ore waiting for the mill to crush up and prepare for market, which it was rattling away at its best to do at the rate of about a ton an hour. The mill is a concentrating or dressing mill, where that portion of the ore which is not quite high-grade enough to pay for shipping as it is, is put through a process of crushing and separating the mineral from the rock, the former being shipped to the smelters and the latter thrown away. The wet process of jigging is employed, and this mill is a particularly well-arranged and effective one. From actual tests made on 100-ton lots, the saving is about 80 per cent of the value in the crude ore, and other improvements are to be added that will increase the percentage of saving quite materially.

The mill building is of brick, and quite extensive, giving ample room for the handling of ores. It formerly belonged to the "United States General Smelting and Mining Co.," and was used as a smelting establishment, and the Hukill Co. have transformed it into concentrating works, of course putting in new machinery and generally remodeling things to very excellent purpose. The Hukill Co. acquired at the same time with the purchase of the smelting works, a placer or free-gold mine that has yielded as high as $200 per day in pure yellow gold, and also the "*Whale*" mine, a lode that has yielded some very fine ore and is considered one of the "big mines" of the county, though it needs, like all truly "big" mines, more development to make it really such. The company's grounds about the mill are quite extensive, with plenty of room whereon to build the miners' cottages, which we understand it is their purpose to erect, so as to afford the many men working for them neat, comfortable homes, and at the same time having the men near the mine so that they can get promptly to their work fresh and vigorous, without having had to walk a mile or so to get there. A large house on the grounds is used as a boarding-house, and is filled almost to overflowing.

Standing on the crusher floor of the mill, we are startled by a crash of falling rock, and turn to see a car dumping itself of its load of ore by a very simple contrivance, whereby, as the car is drawn up the inclined plane by a wire rope and friction gear, the hind wheels, being broader, extend to an abruptly-raised track, while the forward wheels continue on a level, and thus the rear end is lifted so that the car stands almost perpendicular and the ore naturally dumps out, the door catch having been opened by an automatic contrivance also. Thus the ore is brought out of the mine and dumped on this floor, where it is sorted; the first class is put in one place and kept till enough accumulates to ship two or more car-loads; the second class, or mill ore, is wheeled directly to the crusher, and the small proportion of waste rock is thrown down a chute and over the dump. A turbine wheel furnishes the driving power, and it is also intended to use this water-power to drive the air-compressor and power-drills soon to be introduced in the mine. What a splendid thing a water-power is, to be sure! After passing through a crusher, two sets of rolls, the necessary sizing apparatus and jigs, which latter are modified methods of application of the old well-known theories of wet concentration by Mr. COLLOM, including a set of tables for slimes of the Rittinger pattern, the mill headings, or concentrated ore, will be passed through a drying furnace and hoisted by elevators into large hoppers capable of holding at least a car-load each, a sample of the ore being automatically taken as it passes from the elevator to the hopper. From the hoppers it will be carried out over an iron track to the railroad track, which passes at the mouth of the mine, and dumped into the railroad cars in bulk; and thence shipped to the smelter. Heretofore the ore has been loaded in sacks and by wheel-barrow. The new arrangement will save much time and expense. The company intend now to increase the capacity of the mill, to endeavor to keep pace with the production of the mine. Before proceeding to a description of the mines, let me mention that the company is really working three mines—two lodes and one placer mine. On the

Hukill proper, the most active work is being prosecuted, while the "Whale" is showing up so well that it is questionable which one ought to be the most vigorously developed. Our verdict would be—both!

IDAHO SPRINGS, Aug. 28, 1878.

(TO BE CONTINUED.)

WHAT THERE IS OF THE SIERRA NEVADA BONANZA.

Special Correspondence of the Engineering and Mining Journal.

Our Virginia City (Nev.) special correspondence of the 5th inst. says: Sierra Nevada has the bonanza, from all appearances. On examination day the following facts were revealed: The incline winze started from the 1700-foot level at a distance of 1100 feet from the shaft, and running under an angle of 38° was, on the 30th ult., down about 700 feet. At about 540 feet on the incline, low-grade ore made its appearance. This continued to about 580 feet, when it passed out through the east side. About 16 feet deeper, new ore came in on the west side or floor of the winze, and it continued right along, more or less, to the 700-foot point, but of low grade, the incline cutting, as is supposed, the cap-rock to the ore-body. It was mostly hard, water-stained quartz. When this became known on the street, confidence slipped back for a moment, for in 'Frisco reports were of $700 assays. FLOOD tried then to swing his cudgel, But SKAE was too much for him. To keep up his mine as the favorite one, and prevent the breaking of the stock, on Monday, the 2d inst., he gives orders for a cross-cut to be started at the bottom of the incline. This cross-cut is in now about 12 feet, the first three feet cutting low-grade ore, forming the vein-cap mentioned before; it forms the east wall of the ore-body. Then follow four feet of good ore, and the last five feet are rich ore, showing chlorides and black sulphurets. Assays here vary very much, but the average is probably $300 for that portion. As the cross-cut advances, the ore gets decomposed and friable. The extent of the ore-body, width, etc., is not known, but unless a second Consolidated Virginia or California is developed, the quotation of the mine at ten million and more even, as it has been, seems pretty tall.

The underground winze of the United Brooklyn Mine, Pea Vine District, Nevada, is down 120 feet. Three successive stringers or leaders to the ledge were cut, assaying respectively $12.50, $18.40 and $26.80, corresponding to the following vertical depths at which encountered: 35 feet, 55 feet, and 88 feet—a very good prospect certainly.

It has been privately reported that the Eureka (Nevada) Company has not yet cut new ore on the 12th level, and has only three months' ore in sight. This comes from a jealous rival, and may be tinged thereby. The London papers report that the Richmond mine has but very little ore in sight, and that it has had to stop its furnaces because of lack of ore.

C.

NOTES.

AUGUST SCHUYLKILL WAGES BASIS.—The following collieries of the Schuylkill region, drawn to give prices of coal sold in August, 1878, by which to determine rate of wages to be paid for that month, have returned the following prices:

Glendower colliery	$1.92
Merriam colliery	1.94
Girard colliery	1.94
Shenandoah City colliery	1.94
Mine Hill Gap colliery	1.96

The average of these rates being $1.94, the rate of wages to be paid in August, 1878, is nineteen (19) per cent below $2.50 basis.

The tolls were $1.75 in August, and that being the basis of calculation, there will be but a reduction of 10 per cent.

FAILURE OF THE OXFORD IRON COMPANY.—The Oxford Iron Company, of Oxford, N. J., the history of which ante-dates almost every other similar association in the country, has suspended payment. Mr. Benjamin G. Clark has been appointed Receiver of the company by the Chancellor of New Jersey. The company owns two blast-furnaces, rolling mill, nail, spike, and bolt mills, and a tract of iron land at Oxford, N. J., and some coal land near Scranton, Pa. It has done a very large business. The liabilities are stated to be $2,182,000, of which $751,000 is in the form of mortgage bonds; assets nominally about $1,720,500. It is thought all the liabilities can be met with careful management. The first furnace was erected in the works in the year 1773. A bar of pig-iron in the counting-room of the firm, bearing the date of 1775, has always been preserved as a relic of the early history of the company. The old mine from which ore was first dug caved in long ago. A portion of the arch of the first furnace operated in the works is still standing. As it exists at the present time, it is 36 feet higher, and the depth of the furnace has been increased 10 feet. Daniel Roberdan was the manager of the furnace during the Revolutionary War. He conceived the project of casting the long small-bore cannon which constituted the formidable artillery of the period, but failed in the attempt, owing to the extreme dampness of the soil, and the most patriotic endeavors failed to produce any thing but cannon-balls. The mines and furnaces were ultimately bought by the Oxford Iron Company, of which Mr. S. T. Scranton is President. The tract of land covered by the mines and works includes 8000 acres, and the ore realizes nearly 75 per cent of iron-burr, while the feldspar and lime with which it is impregnated renders its fusion an easy matter. The company built a new furnace five years ago. Its bore is 18 feet, stack 63 feet in height, and it has six boilers and heaters, each being 70 feet long. An elevator propelled by hot-air blasts lifts the coal and ore to the mouth of the furnace. Its engine is of 1000 horse-power. The iron produced by the company was wrought into bars, railroad spikes, bolts and nuts, and spike-rods. The factory has 25 puddling, 5 heating, and four spike furnaces, and one bolt furnace. The largest of its 7 engines is 400 horse-power. The monthly products of the manufacture averaged 1400 tons of puddling-bar, 100 tons of nail-plate, and 600 tons of spike-rods. The kegs used for shipping nails were made by the company, which also manufactured its own brick. There were over 700 men in the employ of the company. It had a general merchandise store for their accommodation, and had at different times erected 175 cottages for their use. Work has been continued by the receiver.

MINING NEWS.

COLORADO.

Special Correspondence of the Engineering and Mining Journal.

GILPIN COUNTY.

Sullivan & Co. have completed their new building on the long-deserted Forks lode, and have their steam hoisting machinery at work hoisting ore from the 200-foot level. Fifteen tons of smelting ore were raised in one day—an unusual yield. Some very good ore is being milled. This mine paid immensely many years ago.

The Mercer County mine was also idle for many years until this summer. So were the Hidden Treasure and California. These four mines are all on Quartz Hill, and are all covered with new buildings and possess new and powerful hoisting machinery. The Mercer County has turned out ore already, and the California has begun to yield largely at last, although it took considerable sinking and drifting to get it into producing condition. The Hidden Treasure is doing remarkably well. The shaft is being worked again. It was 550 feet deep.

Thomas J. Richman and some Chicago men bought the Champion mine, midway between Central and Idaho, on the 2d inst. The old owners, Edward Williams & Co., received $18,000 therefor. The vein is small, but very rich. Its mill runs must have given from 20 to 30 ounces of gold per cord.

The Kent County mine is paying better than ever. In some places there is a vein of ore seven feet thick. Six men can break enough of this to keep 37 stamps employed at the mill night and day.

The Kansas, as usual, keeps from 52 to 62 stamps engaged in crushing ore. Quartz Hill wears a livelier appearance than for many years. Its treasure vaults are found to be as inexhaustible as ever, and the resumption of work in several of its long-idle mines will add largely to the county's bullion product.

Gilpin County exported $270,950 worth of bullion in August, and a small amount of ore. Of the above-mentioned sum $111,725 was gold from the quartz mills, $68,500 gold from the Boston and Colorado smelting works and $92,500 silver from the same source. The Fullerton twenty-stamp mill at Black Hawk shut down August 31st. The three Fullerton mills, with 68 stamps, are now idle. One of them is probably pretty well worn out. The closing of the Gunnell mine caused the others to lack a supply of ore.

CLEAR CREEK COUNTY.

The Colorado United Mining Company is getting good pay out of the Terrible, Brown, and some other lodes. The employés, lessees, etc., of this company are said to number nearly 300 men.

The Hukill and Whale mines will make a handsome record hereafter, for every thing is being arranged for speedy and rapid work and transportation, and the ore reserves are steadily growing larger. The concentrating works had a temporary set back by the breaking of a crusher, but another has been supplied. Good pay has been struck again in the company's gulch or creek mine at the head of the drift 300 feet from the shaft. A new shaft will be sunk. No organization in the State has brighter prospects than the Hukill Company.

SUMMIT COUNTY.

The Cashier mine includes the Cashier, Venus, and Ready Pay veins, and is being vigorously worked by the Southworth Brothers. The veins are intersected by cross-cut tunnels. Several hundred feet of shafts and levels have been run, and one part of the mine has yielded $25,000. There is at present from one to six inches of solid gray copper ore, very rich in silver. The last ore sold ran 457 ounces of silver and 23 per cent of copper for first class, and 200 ounces of silver and 8 per cent of copper for second class. The Champion is a continuation of the Cashier. One level has been run 220 feet and another 120. It is now proposed to operate the veins in a new place, and a tunnel has been driven toward the lode for a distance of over 365 feet. Among other veins on or near this dividing ridge of the continent are the Radical, Chatauqua, and other lodes owned by the Montezuma Company and superintended by George Teal, formerly of the Terrible Company, near Georgetown. The North Star, Herman, Belle East and Belle West are also worked. The Boston Silver Association at St. John started up its smelting works during the summer. It has a fair supply of ore on hand, and its tunnel veins are looking well. The same company has leased the Hall Valley Company's smelter, over on the east side of the mountain range, which will be run this winter, after the works at St. John shut down. Custom ores will be bought to some extent.

LAKE COUNTY.

Berdell & Witherell have been buying and shipping about 20 tons of carbonate ore daily. They are securing large amounts of low-grade material for the smelter they are putting up. Butsch & Keoller have leased and bonded the old Malta works, and have new machinery and a smelting furnace on the way. The company operating the Adelaide mine are putting up a smelter. This adjoins the Argentine or Camp Bird mines, over a mile from Leadville. A town of 1000 people has sprung up there. Leadville has another weekly newspaper. It is called the *Eclipse*, and is Democratic in politics. It is said that 1000 horses and mules are engaged in freighting between Leadville and the different railway termini. Another bank has been started at Leadville, making the third in the rapidly-growing metropolis of the carbonate region. The ore shipments are somewhat larger than in the first half of the summer. Lately the Little Chief, Yankee Doodle, and one or two others have become as heavy producers as the Iron, Argentine or Camp Bird, Dana, Carbonate, Crescent, Little Pittsburg and New Discovery. Most of the mines are not turning out as much ore as they would be doing were it not that almost every body is "on the sell." Grant's new 15-ton smelter will begin operations in a week or two, and the Harrison smelting capacity will be trebled about the same time, so that the low-grade mineral will have a much better market than formerly.

FREMONT COUNTY.

Ten silver bricks were sent east from the Mallet Reduction Works in the first half of August. The last one was worth $850 and was 800 fine. Bullion is still being shipped regularly.

SAN JUAN REGION.

The Mastodon tunnel, projected to cut the Mastodon lode, is in 325 feet, and 175 feet below the surface. Vein matter was lately reached. The Animas Forks Mining Company, into which has been merged the Dakota and San Juan Company, has erected concentrating works at a cost of $25,000. E. B. Greenleaf is Superintendent of the company. The Bonanza tunnel, conducted by F. J. Pratt, is in 376 feet. Hereafter the work will be done by air drills. Mr. Pratt will soon let contracts on a tunnel from the Poughkeepsie side of the mountain, which will meet the above some time in the future.

Ore is coming into Lake City from the Dolly Varden, Red Roger, Alaska, Aspen, Maid of the Mist, Mountain Queen, Gipsy King, Ocean Wave, Ute, and many others. Both smelting works at this place are turning out large amounts of bullion, and Crooke's establishment is expected to continue work all winter instead of shutting down in the fall as heretofore. The lixiviation works are ready to resume work.

Three tons of the Valley View lode, Howard's Fork, returned 234 ounces of silver at the Silverton works. The Summit Lode, near by, gave 213 ounces at a recent run.

In Mount Sneffles district, the Virginius employs 25 men and yields a large amount of ore. Eight men in the Yankee Boy are getting out ore, running from 300 to 1900 ounces of silver per ton. A large force will be at work on the Wheel

of Fortune. Among other veins being developed are Blue Grass and Terrible. J. Oldwiler will work the Smuggler mine, San Miguel District, all winter.

COIN.

THE BLACK HILLS.

From private advices received from the Black Hills, dated the 5th inst., we extract the following: "The Caledonia is sold to Californians for $65,000. The Old Abe and Palmetto—American Flag—bonded for $250,000, will go. The Hoodlebug is sold at figures not made public. The Rochford District, on Little Rapid, is proving some large veins, and, in fact, the whole country is looking good."

CALIFORNIA.

THE BODIE DISTRICT.

From the mining summary in the *Standard* of the 4th inst. we make the following extracts: "Since our last report, many changes are noticeable in Bodie District. Nearly every day new companies are organized, many of them composed of the most substantial and influential citizens of this place and San Francisco. The bullion yield of our two great bonanzas has inspired all with such confidence as to insure the development of many claims which have only location to back them. The vein in the Black Hawk is much wider and considerably improved in quality, and a few feet deeper a much richer body of ore than any thing heretofore encountered will, no doubt, be developed in this mine. The new hoisting works for the Summit, Bodie, and Champion mines are now on the ground, and those ordered for the Richer, South Bulwer, Old Dan, May Belle, and Concordia will reach here in a few days. The hoisting works for the Champion are completed, and have been in first-class running order for the past week, and the shaft will now be driven down as rapidly as possible. The South Bulwer, recently incorporated, is showing up a very pretty 2½-foot ledge, which is improving in quality.

"Good progress is being made in sinking the new shaft on the Bodie, which is now down 50 feet. Sinking the winzes on both the Bruce and Burgess ledges is going along finely. The former winze especially is in very high-grade ore. The mill shut down for three days during the past week, for the purpose of cleaning up, but started again Friday night. This mill is still turning out an immense amount of bullion. During the month between the 31st of July and the 31st of August, 1050 tons of ore were crushed, yielding $601,103.87, or an average of $600 per ton."

NEVADA.

THE COMSTOCK.

From the mining summary in the Gold Hill *News* of the 4th inst., we extract the following: "The Belcher on Saturday last started two east cross-cuts on the 2360 level—one 227 feet south of the north incline, and the other directly opposite that shaft. These drifts, in a short time, must penetrate the ore-vein.

"The Crown Point also started two east cross-cuts into the heart of their ground this morning, so that it will not be at all surprising should the south or Gold Hill end of the Comstock soon begin to keep time with the grand change wrought during the past few weeks on the north end.

"The situation in the Ophir, California, Consolidated Virginia, Overman, and Julia, are virtually unchanged for the week. At the Alta and in the Justice, Silver Hill, New York, and other south-end mines, preparations are making steady progress.

"The face of the Sutro tunnel is now in a distance of 20,500 feet, at which point the tunnel has been temporarily stopped on account of the necessity of using the air-pipes and drilling machinery for driving the south branch of the tunnel running to connect with the Julia shaft, which is now well under way, and is being pushed ahead with great vigor."

A dispatch to the *Stock Report*, dated the 5th inst., says: "The cross-cut in Sierra Nevada is stopped, and a force of men put in the incline, where sinking is resumed. Cross-cutting will be resumed at the 2200 level.

"It is reported here that Col. Fair is making preparations to make Ophir the next lively gamble, and give the boys a deal. Ophir has got the ore 200 feet higher than Sierra Nevada. The drift from the main incline is running for the ore on the 2100 level, and should reach it during the present month."

PROPOSALS.

For the benefit of many of our readers, we have compiled, from advertisements in our exchanges, such proposals and solicitations for contracts, etc., as may be of interest. This table indicates the character of proposals wanted, with the full name and address of parties soliciting the same:

Proposals invited for—	*Name and address of parties from whom specifications may be had.*	*Latest date on which tenders will be received.*
Rebuilding bridge	Geo. G. Brown, Kings County Bridge Committee, Brooklyn, N. Y.	Sept. 16
Pier in Ashtabula Harbor, O.	Walter McFarland, Maj. of Eng'rs, Oswego, N. Y.	" 17
Breakwater in Ashtabula Harbor, O.	" " " " " " "	" 17
Lachine Canal, completion of portion of	F. Braun, Dep't of Public Works, Ottawa, Can.	" 18
Paper pulp, produced by the destruction by maceration of government securities	Ed McPherson, Chief of Bureau, Washington, D. C.	" 18
Convict labor to let	R. W. McClaughry, Warden Penitentiary, Joliet, Ill.	" 19
Beacons and dwellings	Wm. Jones, Capt. of Engineers, Charleston, S. C.	" 21
Dredging at Cambridge, Md.	Wm. P. Craighill, Maj. of Eng'rs, Baltimore, Md.	" 24
Building of screw steamers	John Rogers, Light-House B'rd, Washingt'n, D.C.	" 25
Repairing bridge	F. S. Massey, Com. of City Works, Brooklyn, N.Y.	" 26
Anthracite coal, 1000 tons of steamboat	A. H. Gilman, U. S. Navy Pay Office, New York, N.Y.	" 26
Improvement of Delaware River	J. N. Macomb, Col. of Eng'rs, Philadelphia, Pa.	" 27
Dredging Scuppernong River, N. C.	Charles B. Phillips, Captain of Engineers, Norfolk, Va	" 28
Machinery	W. W. Williams, Pay Inspector U. S. Navy. Washington, D. C	" 28
Railway construction	F. Braun, Secretary of Department of Public Works, Ottawa, Canada	Jan. 1, 1879
Locks and keys for mail bags	D. M. Key, Postmaster General, Washington, D. C.	Mar. 20, "

STATISTICS OF COAL PRODUCTION.

This is the only Report published that gives full and accurate returns of the production of our Anthracite mines.

Comparative statement for the week ending Sept. 7th, and years from January 1st:

TONS OF 2240 LBS.	1878.		1877.	
	Week.	Year.	Week.	Year.
Wyoming Region.				
D. & H. Canal Co.	25,135	1,358,573	.....	1,284,546
D. L. & W. RR. Co.	39,951	1,366,583	.....	1,311,352
Penn. Coal Co.	11,244	549,880	13,831	712,100
L. V. RR. Co.	14,712	532,952	3,832	591,234
P. & N. Y. RR. Co.	514	20,546	.....	32,931
C. RR. of N. J.	3,076	616,271	56	868,157
Penn. Canal Co.	3,408	213,693	4,139	230,352
	98,040	4,658,498	21,858	5,030,672
Lehigh Region.				
L. V. RR. Co.	42,658	1,611,398	103,424	2,064,319
C. RR. of N. J.	344	840,334	22,906	946,058
D. H. & W. B. RR.	.....	18,311	.....	13,524
	43,002	2,470,043	126,330	3,023,901
Schuylkill Region.				
P. & R. RR. Co.	3,057	3,125,147	177,704	4,354,265
Shamokin & Lykens Val.	18.404	462,165	10,430	412,151
	21,461	3,587,312	188,134	4,766,416
Sullivan Region.				
Sul. & Erie RR. Co.	941	21,562	981	9,963
Total	163,444	10,737,415	337,303	12,830,952
Increase	.....	.....	.....	.....
Decrease	73,859	2,093,537	.....	.....

The above table does not include the amount of coal consumed and sold at the mines, which is about five per cent of the whole production.

Receipts and shipments of coal at Chicago Ill., for the week ending Sept. 7th, and year from January 1st.

	Week. Tons.	Year. Tons.
Receipts	36,470	1,108,653
Shipments	8,783	159,616

The Exports of Coal from Baltimore for the week ending Sept. 6th were 352 tons, and since January 1, 24,110 tons, as against 22,994 tons for the corresponding time in 1877.

The increase of shipments of Cumberland Coal over the Cumberland Branch, and Cumberland and Pennsylvania railroads amounts to 72,651 tons, as compared with the corresponding period in 1877.

Perth Amboy Business:

	Tons.
Received for the week	19,592
Shipped for the week	11,728
On hand Sept. 7th	84,906

Coals Cleared on the Canals of the State of New York for the week ending Sept. 7th, and year from the opening of navigation:

Tons of 2000 lbs.	1878.		1877.	
	Week.	Year.	Week.	Year.
Anthracite	15,406	404,125	29,216	645,457
Bituminous	6,328	121,686	7,734	186,990
Total amount cleared	21,734	525,811	36,950	832,447

Belvidere Delaware Railroad Report for week ending Sept. 7th:

	Week.	Year. 1878.	Year. 1877.
Coal for shipment at Coal Port (Trenton)	720	6,286	12,544
Coal for shipment at South Amboy	4,701	324,348	375,133
Coal for distribution	3,012	114,616	119,227
Coal for Company's use	942	52,788	46,082

The Production of Bituminous Coal for the week ending Sept. 7th, was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2,240 lb.	46,440	1,038,307
Barclay Region, Pa.		
Barclay R. R., tons of 2,240 lbs	5,779	206,886
Broad Top Region, Pa.		
Huntingdon and Broad Top R. R.	3,263	97,627
*East Broad Top	628	39,842
Clearfield Region, Pa.		
*Snow Shoe	173	15,819
*Tyrone and Clearfield	12,323	833,381
Allegheny Region, Pa.		
*Pennsylvania R. R	1,334	135,246
Pittsburg Region, Pa.		
*West Penn R. R	1,625	122,913
*Southwest Penn. R. R	243	17,442
*Penn & Westmoreland gas coal, Pa. R. R	5,841	441,941
*Pennsylvania R. R	3,913	264,002

*For the three days ending August 31st.

The Production of Coke for the three days ending August 31st:

Tons of 2000 lbs.	Week.	Year.
West Penn R. R.	1,192	56,473
Southwest Penn. R. R.	7,896	514,746
Penn. & Westmoreland Region, Pa. R. R.	777	49,890
Pittsburg, Penn. R. R.	1,845	66,853
Total	11,710	687,962

COAL TRADE REVIEW.

NEW YORK, Friday Evening, Sept. 13, 1878.

Anthracite.

The week under review has developed no improvement in either demand or prices.

The larger sizes of coal are in good demand, while the smaller, or domestic sizes, continue very dull. The continued warm weather is putting back the trade in domestic sizes very much, and as the public has but little confidence in the combination being a permanency, it is likely to consume some of the coal reported to be left over in cellars before entering the market for its regular winter supplies. There are many who have their coal put in during their summer absence from the city, to avoid the dirt and annoyance. Those who have not availed themselves of this opportunity are not likely to rush around immediately upon their return, especially if they have one or two months' supply on hand. It is as easy to secure coal in January as in September, and in times like these, when nearly every one studies economies, it is very difficult to predict when an active demand will set in. The trade of the present month has been smaller than anticipated by the most conservative, and, as a consequence, stocks will show but little decrease, despite the small production allotted. A meeting of the Board of Control will probably take place next week, although we have learned of no official announcement to that effect. Already there are rumors that the allotment for October will be 2,000,000 tons. Of course, this is only talk, but yet it is evidently the expression of opinion of some interested party. If based upon the production of the same month in other years, it would be warranted; but in such a year as this, there is no precedent for guidance. If such a quantity should be determined upon, it would probably demoralize the trade to a greater extent than at present. The experience so far this year does not afford much probability for the reëstablishment of the Combination next year; indeed, most of the companies should be pretty well disgusted with it before the close of this.

Our remarks on the necessity of assisting the iron industry are borne out by the failure of the Oxford Iron Company, indebted about a quarter of a million of dollars to the Delaware, Lackawanna, and Western Railroad Company. This may be considered only a beginning, unless a radical change sets in. There are other companies whose necessities are very pressing. High-priced coal and uncertain-priced coal not only directly prevent the furnace companies from making iron at a profit or entering into contracts for future delivery, but greatly lessen the markets by curtailing the demand from other industries dependent on cheap coal at regular prices.

The production of anthracite coal is again falling off, and there is nothing to indicate that it will not continue to do so steadily until the end of the year. During this month there will certainly be a loss, while during October and November of last year there was a production of about four and a quarter millions of tons. If 3,500,000 tons should be handled during these two months this year, business would have to be better than is now indicated as probable. Last year coal was cheap, and it was being laid in on all sides for that reason, and the markets were from the same cause greatly extended.

The production of anthracite coal last week was 163,444 tons, as against 378,632 tons the previous

week, and 337,303 tons the corresponding week of 1877. The total production from January 1st to September 7th was 10,737,415 tons, as compared with 12,830,952 tons for the like period of last year, showing a falling off this year of 2,093,537 tons.

Bituminous.

Trade continues very dull, although shipments are still fair. There has been only a moderate supply of vessels at Georgetown during the past week.

New York.

Wholesale Prices of Bituminous Coal.

DOMESTIC GAS COALS.

Per ton of 2240 lb.	At the Shipping Ports.	Alongside in New York.
Westmoreland and Penn	$4 25	.....
At Greenwich, Philadelphia	.....	$5 50
At S. Amboy	5 00	5 50
Kanawha at Richmond	4 10	5 40
Red Bank Cannel, Pa., at Philadelphia	8 00	8 50
Youghiogheny, Waverly Co., at Balt	4 00	5 65
Despard, West Va	4 50	6 00
Murphy Run, West Va., at Baltimore	3 75	5 85
Fairmount, West Va., " "	3 75	5 70
Newburg Orrel. Md. " "	3 75	6 00
Cannelton Cannel, West Va	.....	10 00
" Splint " at Richmond	6 00	7 00
" Gas Coal at Richmond	4 00	5 65
Peytona Cannel, W. Va., at Richmond	.....	10 00

MANUFACTURING AND STEAM COALS.

Cumberland at Georgetown and Alexandria	2 75@2 90	4 35@4 50
Cumberland, at Baltimore	2 90@3 00	4 35@4 50
Cl'rfi'd "Eureka" and "Franklin."		
At mines	0 75	.....
At Baltimore	3 25	4 50
At Philadelphia	3 25	4 50

FOREIGN GAS COALS.

	Sterling.	Am. cur'ncy
Newcastle, at Newcastle-on Tyne	7s.6d.	$2 50@$3 50
Liv. House Orrel, at Liv.	25s.	13 00
Ince Hall Cannel "	35s.6d.	18 00
" Gas Cannel "	25s.6d.	10 00@10 50
Scotch Gas Cannel, at Glasgow, nominal	25s. Gold.	7 50
Bl'k House, at Cow Bay, N.S.	$1 75	$4 50
Caledonia, at Pt. Caledonia	1 50	4 25
Glace Bay at Glace Bay	1 50	4 00
Lingan, at Lingan Bay	1 50	.....
Intern'l Mines, at Sydney	1 75	4 50
Pictou, Vale Mines, at Pictou	2 00	4 70

Wholesale Prices of Anthracite Coal for September Delivery f. o. b. at Tide Water Shipping Ports, per ton of 2240 lbs.

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut.
WYOMING COAL.	$	$	$	$	$	$
Lackawana, at Weehawken	.....	.....	.....	.....	.....	.....
*Pittston, at Newburg	3 55	3 55	3 65	3 75	4 05	3 50
L. Val. Coal Co., at Amboy	.....	.....	.....	.....	.....	.....
Kingston at Hoboken	3 50	3 60	3 70	3 85	4 20	3 60
Wilkes-Barre at Pt. Johnson	3 60	3 60	3 70	3 85	4 20	3 60
Plymouth Red Ash at Port Johnson	.....	.....	3 70	3 85	4 30	3 60
Swoyers at Eliz. Pt. or S.A.	.....	.....	.....	.....	.....	.....
LEHIGH COAL.						
L. V. Coal Co., at P. Amboy	.....	.....	.....	.....	.....	.....
Cross Creek, at Port John.	.....	.....	.....	.....	.....	.....
Buck Mount. Vein at Elizabeth Port or S. A	4 25	4 00	3 90	3 90	4 20	3 60
SCHUYLKILL COAL						
At Pt. Richmond, Phila.						
Hard White Ash	3 30	3 30	3 30	3 45	3 85	3 35
Free-burning W. Ash	.....	.....	3 25	3 40	3 85	3 25
Schuylkill Red Ash	.....	.....	.....	3 70	3 85	3 25
Lorberry	.....	.....	3 70	3 85	3 85	3 35
Lykens Valley Vein	.....	.....	3 70	3 95	3 95	3 55
†*Alongside in N.Y. Harbor.*						
Hard White Ash	4 10	4 10	4 10	4 10	4 40	3 80
Free-burning W. Ash	.....	.....	3 80	3 95	4 40	3 80
Schuylkill Red Ash	.....	.....	.....	4 35	4 50	3 90
Lorberry	.....	.....	.....	4 60	4 60	4 25
Lykens Valley Vein	.....	.....	4 60	4 70	4 70	4 35

* Fifty cents per ton additional for delivery in New York.

† On coal delivered f. o. b. at the Philadelphia and Reading Coal and Iron Co.'s Wharf at Williamsburgh, the current date of harbor freight will be allowed from the prices here given.

Retail Prices.

Per ton of 2000 lbs.

Anthracite.

	G. & Egg.	Stove.	Chest.
Pittston coal delivered	$5 00	$5 00	$5 00
Lack. coal, delivered below 59th St.	4 50	4 75	4 75

Bituminous.

Liv. House Orrel	$18 00	American Orrel	$11 00
Liv. House Cannel	18 00	Red Bank Cannel	7 00
Am. " Cannel	11 00	Cumberland	9 00
Ca'n'lt'n Bl'k, or splint.	10 00		

Baltimore. September 10, 1878.

[Specially reported.]

Wholesale Prices per ton of 2240 lbs.

In cars at Depot N. C. R. R.

HARD WHITE ASH, FREE-BURNING WHITE ASH, SHAMOKIN, ETC.

Lump and Steamboat	$3.85	Stove	$4.25
Broken	3.85	Chestnut	3.80
Egg	4.00		

LYKENS VALLEY RED ASH.

Broken	$4.15	Stove	$4.45
Egg	4.30	Chestnut	3.90

From wharf or yard to the trade, 50c. per ton additional. Afloat by cargo per canal barge, 15c. per ton less than in cars at depot.

Boston. Sept. 9, 1878.

Anthracite, broken	$4.55	Caledonia	$4.00
" egg	4 60	Newcastle	4.00
" stove	5 00	Cannel, English	18.00
Franklin	4.75	" Library	15.00
Cumberland	4.50	" Buckeye	11.00
Clearfield	4 50	Penn	5.25
Westmoreland	5.25	Youghiogheny	5.25

—*Commercial Bulletin.*

Buffalo. September 9, 1878.

[Specially reported by E. L. HEDSTROM.]

Until further notice, the following will be the prices for Scranton, Wyoming, Lehigh, and Blossburg coals, per ton of 2000 pounds, delivered free on board vessels at Buffalo N. Y.:

	Lump.	Grate.	Egg.	Stove.	Nut.
Scranton	....	$4.55	$4.65	$4.90	$4.40
Wyoming	....	4.55	4.65	4.90	4.40
Lehigh (Sugar Loaf)	....	....	....	....	....

Blossburg, $3.50, F. O. B.

	To dealers.		Retail.
	On cars or boats.	In yard, screened.	Delivered.
Grate	$4.15	$4.25	$5.15
Egg	4.25	4.35	5.25
Stove	4.50	4.60	5.50
Chestnut	4.00	4.10	5.00
Lehigh Lump	....	....	....
Blossburg	3.25	3.40	4.00

[Specially reported by C. M. UNDERHILL.]

	Delivered at			
	Elmira.	Ithaca.	Syracuse	Rochester.
	Afloat.	Afloat.	Afloat.	Afloat.
Lump	.....	.....	.....	.....
Grate	$3.50	$3.35	$3.35	$3.60
Egg	3.60	3.45	3.45	3.70
Stove	3.70	3.70	3.70	3.95
Nut	3.60	3.60	3.35	3.60

	Delivered at				
	Oswego.	Erie.	Buffalo.		
	F. O. B.	F. O. B.	Afloat.	F. O. B.	Ret. Del.
Lump	.....	.....	.....	.....	.....
Grate	$3.80	$4.30	$3.90	$4.30	$4.90
Egg	3.90	4.40	4.00	4.40	5.00
Stove	4.15	4.65	4.25	4.65	5.25
Nut	3.65	4.15	3.75	4.15	4.75

Cost of coal from Erie, Oswego, Sodus Point or Charlotte for Western market, same as if shipped from Buffalo.

BLOSSBURG COAL.

Per ton of 2000 lbs.

	To dealers.	To consumers.
By car or boat	$3.25	$3.25
In yard	3.40	3.60
In car	.....	3.65
Delivered	.....	4 00

[Specially reported by LEE & LOOMIS.]

Per ton of 2000 lbs. delivered on cars.

	Lump.	Run of Mine.	Nut.	Slack.
Connellsville coke	$4.75	.....	.....	.....
Brookfield Coal	3.50	.....	.....	.....
Briar Hill	3.50	.....	2.85	.....
" " No. 2	.....	3.15	.....	.....
Youghiogheny	4.00	.....	.....	.....
Monterey	3.00	2.60	.....	.....
Catfish	3.00	2.60	.....	1.70
Stoneboro	.....	2.60	2.50	1.70
Sterling Cannel	4.50	.....	.....	.....
Cameron	.....	2.80	.....	.....
Hillside	.....	.....	.....	.....

Chicago, Ill. September 9, 1878.

[Specially reported by Messrs. RENO & LITTLE.]

The following are the present prices of coal per ton of 2000 lbs. delivered:

Retail prices of coal delivered per ton of 2000 lbs

Lackawanna Stove	$6.25	Erie and Brier Hill	$5.00
" Chestnut	6.00	Wilm'gton & Ill.	$3 00@3.50
" Grate	6.00	Blossburg	5.50@6.00
" Egg	6.00	Piedmont	7.00

Stocks of all kinds of coal liberal. Trade dull.

Cincinnati, O. Sept. 10, 1878.

[Specially reported by the Consolidated Coal & Mining Co.]

Per bushel of 72 lbs.

	Retail delivered.	Wholesale afloat.
Youghioghney	11c.	7½c.
Camden	9c.	5½c
Cannel	17@18c.	13c.

Anthracite, delivered, $7@$8 per ton of 2,000 lbs.

Cleveland, O. Sept. 9, 1878.

[Specially reported by F. A. BATES, Esq.]

Per ton of 2000 lbs. f.o.b. vessels.

WHOLESALE.

Brier Hill (Church Hill)	$3.25
" No. 2 Grades	3 00@3.15
Monday Creek	2.60
Straitsville Lower Vein	2.60
Hocking Valley	2.60
Massillon (No. 2 grades 15 cents less)	2.60
Tuscarawas Valley	2.25
Columbiana	2.25
Nut coal, various grades	1.70@2.00
Screenings "	1.25@1.50
Youghiogheny gas coals	3 60

RETAIL TRADE.

	1 ton.	10 tons.
Brier Hill lump	$4 00	3 75
Massillon and Mineral Ridge lump	3 75	3 50
" " " " nut	3 50	3 25
Straitsville Lower Vein and Hocking lump	3 60	3 35
" " " nut	3 40	3 15
Rich Hill lump	3 50	3 35
" " nut	3 25	3 00
Columbiana, lump	3 00	2 75
" nut	2 50	2 35
Lacka'a., Wilkes-Barre and Pittston egg and grate	5 50	5 25
Lackawanna, Wilkes-Barre and Pittston stove	5 85	5 60
" " " chestnut	5 25	5 00

Lehigh $1 per ton higher.

Hamilton, Ont. Sept. 9, 1878.

[Specially reported by H. BARNARD.]

Retail prices delivered per ton of 2000 lbs.

Scr. or Wilkes-B. Grate.	$4.75	Lehigh Lump	$6.00
" " Egg	4.75	Brier Hill	5.00
" " Stove.	5.25	Massillon	4.50
" " Nut.	4.75	Smithing	5.50

Montreal. Sept. 12, 1878.

[Specially reported by Messrs. ROBERT C. ADAMS & Co.]

Wholesale per 2240 lbs.

Scotch Steam	$3.50	Cape Breton Steam	$2.75
Pictou	3.25	Newcastle Smith's	4.00

Anthracite at retail, per 2000 lbs. delivered.

Stove	$5.50	Chestnut	$5.00
Egg	5.15		

New Orleans, La. Sept. 9, 1878.

[Specially reported by Messrs. C. A. MILTENBERGER & Co.

Coal on hand Sept. 1, 1878: Pittsburg coal, 181 boats, 4 barges and 2 French Creeks; St. Bernard coal, 6 boats and 1 barge. Consumption during August: Pittsburg coal, 20 boats, 3 barges and 2 French creeks. Arrivals: 3 boats and 1 barge Pittsburg coal from Bayou Sara.

PITTSBURG COAL.

At wholesale (by boat-load)	27c	per bbl. of 180 lbs.	
To steamboats	45c.	"	"
" manufactories	45c.	"	"
" families	50c.	"	"
In hhds. (for shipment)	$5.00	per hhd. from 5 to 6 bbls.	

ANTHRACITE COAL

Per ton of 2000 lbs.

At wholesale	$7.00 to $8.00
To families etc	9 00 to 10.00

ST. BERNARD (KY.) COAL.

To steamboats	40c.	per bbl. of 180 lbs.	
" families	45c.	"	"
Virginia cannel to families	$1.00	"	"

Philadelphia. Sept. 12, 1878.

The Schuylkill Region made a good start on Monday, but many of the collieries are already entirely or partly stopped for want of feed water.

When the small quota for this month was fixed, the dealers rushed in for a supply, expecting much improvement in the demand from consumers, but they have not responded to the extent expected, and there is not the same activity as we noticed one week ago. A fair trade, however, is likely to come in October, if there is no alteration in prices and no change made in the September quota. The trade may be said to be active for broken and egg at tide water, and for stove and chestnut for local demand.

To expect a rush in the fall, is to ignore the changes which have taken place, and the conditions of the trade. Every year there is a tendency to a more even demand through the year and less of a rush at particular seasons of the year, and the reasons for it are familiar to all who have followed the march of the trade. This we consider an improvement. There is no doubt that a demand for coal which would absorb all that can be produced during the year, at a price leaving a fair margin of profit to producers and transporters not crowded with debts and without any change in prices, would be the perfection of a trade, and the nearer it comes to that, the nearer to perfection it will be. Before it is reached, however, consumers must be encouraged by moderate charges for transportation, and we are very far from it, and will continue to be as long as the consumer is expected to be taxed for past follies. They must also feel that no changes will be suddenly sprung on them before they will establish industrial works consuming a large proportion of the product—the domestic consumption being too small a share to constitute by itself a remunerative trade.

Freights continue the same, with vessels in fair supply.

Pittsburg. September 12, 1878.

COAL.—There has been a general strike among the miners of the Monongehela region, and but one of the sixty collieries contained in it is now being worked—that of W. H. Brown's heirs, who, by the way, have several, and who have at all times been able to obtain their mining at the lowest rates, for the reason that they give uninterrupted employment and keep their works in operation at all times throughout the year. In this respect they are exceptional, which secures them exceptionally low rates for their mining. Now they are paying 1¼ cents per bushel, while the other operators have been paying 2 cents, and it is against this that the strike was organized, the demand of the strikers being for 2½ cents. Owing to the depressed condition of the trade, there is but little interest in the stand taken by the miners. No proposals of compromise or reconciliation have been made on either side, and the course of the discontented workmen, though they are said to number some 20,000, is regarded with seeming indifference by the employers. There is enough coal mined—some eight or ten million bushels—for a liberal run, which will not be undertaken while the pestilence continues. And all points below being well supplied, consumers will experience no inconvenience or suffering if coal does not reach them until the first of January. There having been no notewort hy transactions within the past week, we have

nothing to add but the quotations, which are unchanged :

PRICES AT PITTSBURG.

Wholesale, on board..	4	cts. per bushel.	$1.06 per ton.
Retail, delivered.....	6½	cts. "	1.71 "

AT CINCINNATI.

Wholesale, on board..	6	cts. per bushel.	$1.59 per ton.
Retail, delivered.....	8	cts. "	2.12 "

AT LOUISVILLE.

Wholesale, on board..	6	cts. per bushel.	$1.59 per ton.
Retail, delivered.....	8	cts. "	2.12 "

AT NEW ORLEANS.

Wholesale, on board..	27	cts. per bbl.	$2.61 per ton.
Retail, delivered.....	40	cts. "	3.87 "

Bushels are rated among dealers here at 76 lbs.—26⅓ bushels make a ton, nearly.

The barrel that rules the coal measurement in New Orleans contains 2 4-7 bushels of 80 lbs. each, making about 206 lbs. Nine and two thirds of these barrels weigh a ton within a small fraction.

Since the foregoing was written, we have been informed that the miners on the fourth pool have gone to work at 2 cents a bushel. It is usual to charge half a cent less for mining on this pool than on those below. Otherwise the situation is as above described.

COKE—This industry has been undisturbed by any fluctuation in production or consumption. The subject of coal and mining connected with the manufacture has some peculiarities worthy of note. About 42,000,000 bushels of coal are required to manufacture the 63,000,000 bushels of coke produced in the Connellsville district. The coal is of an unusual quality, and is stored in the earth in an unusual manner. It is in thick veins, unusually soft, and is mined for ¾ of a cent per bushel ; with which pay miners are satisfied, owing to these advantages, and also to the measurement of all the gobbing into the bushels for which they are paid, there being nothing screened out. Quotations unchanged—we give them at home rates, in which 40 lbs. make a bushel, and 50 bushels a ton.

Wholesale, per bushel. 4@4½c.; per ton	$2.00@$2.25
Retail, per bushel, 5@5½c.; per ton	$2.50@$2.75

The prices at other points where the Connellsville coke goes are the same as here with the transportation added.

Tons in the above tables are of 2000 pounds.—*American Manufacturer.*

Pittston, Pa. Sept. 10, 1878.

Pennsylvania Coal Company's Coal in Yard.

Retail per ton of 2,000 lb.

Lump, Egg, and Stove	$2 25
Chestnut	2 00
Pea	1 00

Delivered, 50 cents per ton additional.

Richmond, Va. Sept, 10, 1878.

[Specially reported by S. H. HAWES, Dealer in Coal.]

Per ton of 2240 lbs. f.o.b.

Kanawha Cannel	$9.00	New River Bituminous	$3.30
Coalburg Splint	4.50	Clover Hill Coal	2.50
Lewiston "	4.50	Norwood Gas and	
Kanawha Gas Coal	4.10	Steam Coal	2.70

Sandusky, Ohio. Sept. 10, 1878.

[Specially reported by Messrs. BLACK & CLARKE, Agents Con Coal and Mining Company.]

Per ton of 2000 lbs.

ANTHRACITE.

	Grate.	Egg.	Stove.	Chest
Lehigh	$6 00	$6 00	$6 25	$5 75
Wilkes-Barre	4 80	4 90	5 15	4 65
Pittston	4 80	4 90	5 15	4 65

BITUMINOUS.

Massillon	$2 85	Straitsville	$2 50
Hocking Valley	2 50	Piedmont	4 10

Prices retailed delivered 50c.@75c. above car prices.

San Francisco. Sept. 5, 1878.

COAL.—Imports from January 1st to September 1st, 1878 :

	Tons.		Tons.
Anthracite	9,472	English	19,612
Australian	90,065	Mt. Diablo	65,401
Coos Bay	21,677	Rocky Mountain	371
Cumberland	802	Ione	621
Bellingham Bay	2,820	Carbondale	2,024
Vancouver Island	87,780	Ounalaska	300
Seattle	69,645		

The arrivals during the week have been quite numerous ; very many of the cargoes were, however, placed long prior to arrival, at rates even better than those now ruling. The imports include the following : Per Ericsson, from Seattle, 2340 tons; Clara Light, from Coos Bay, 250 tons; Lord Cairns, from Dundee, 1706 tons ; per Juno, from Sydney, 2019 tons ; from same, per Haddington, 1580 tons ; per Don Nicolas, from Nanaimo, 1650 tons ; Marmion, from Departure Bay, V. I., 1550 tons ; Whistler, from same, 740 tons ; Strathearn, 3380 tons from Newcastle, N. S. W. ; Norway, 340 tons Coos Bay. Up to this hour of writing we have no sales to report, but prices for the most part rule low, say $5.75@$6 for Australian cargoes. The City of Delhi, from Glasgow, has 1082 tons. The Airlie, from Newcastle, N. S. W., brings 1871 tons.—*Commercial Herald.*

St. Louis, Mo. Sept. 10, 1878.

Reported by JAMES J. SYLVESTER, Secretary of the Anthracite Coal Association.]

Retail prices, delivered. Ton of 2000 lbs.

ANTHRACITE.

	Per ton.		Per ton.
Lackawanna	$7.50@	Lehigh	$8.50@
Wilkes-Barre	7.50@	Connells. Coke.	6.00@
Schuylkill	7.50@	Blossburg	7.75@

Toledo, Ohio. Sept. 10, 1878.

[Specially reported by Messrs. GOSLINE & BARBOUR.]

We quote the following prices for coal on cars at Toledo:

Ton of 2000 lbs.

	Grate.	Egg.	Chestnut.	Stove
Pittston	$4 80	$4 90	$4 65	$5 15
Wilkes-Barre	4 80	4 90	4 65	5 15
Lackawanna	4 80	4 90	4 65	5 15

Lehigh lump, $5.75.

Ton of 2000 lbs.

Straitsville lump	$2 60	Massillon nut	$2 40
" nut	2 25	Willow Bank lump	2 85
Shawnee lump	2 60	" nut	2 40
" nut	2 25	Cumberland	5 00
Hocking Valley lump	2 60	Blossburg	4 60
" nut	2 25	Morris Run	4 60
Massillon lump	2 85	Gas Coal	3 30

Retail prices, delivered in the city, are: Stove, $5.25; Grate, Egg, and Chestnut, $5.

FREIGHTS.

Coastwise Freights.

Per ton of 2240 lbs.

Representing the latest actual charters to Sept. 12, 1878.

PORTS.	From Philadelphia.	From Baltimore.	From Elizabethport, Port Johnson, South Amboy, Hoboken and Weehawken.
Albany	.....	1.60	.....
Alexandria, Va.	.....	60	.....
Allyn's Point	1.22½	.....	.....
Augusta	1.30	1.50	.....
Bangor, Me	.....	1.50	85
Bath, Me	1.10	1.30	85
Baltimore	40	.....	.....
Beverly, Mass	.....	.....	85
Boston, Mass	1.10@1.15	1.30	85
Bridgeport, Conn.	85@90†	1.25	60
Bristol, R. I.	.....	1.30	70
Brooklyn	85	.....	.....
Cambridge, Mass.	1.15	.....	85
Cambridgeport	1.15	.....	85
Charlestown	1.20	.....	85
Chelsea	1.10	.....	.....
Cold Spring	.....	1.30	.....
East Cambridge	.....	.....	85
Fall River	.....	1.30	70
Hartford	1.40	1.80	.....
Hoboken	.....	1.20	35
Hudson	.....	1.35	.....
Jersey City	.....	1.15	35
Lynn	1.25	.....	85
Middletown	.....	.....	90
Nantucket, Mass.	.....	.....	90
New Bedford	1.05	1.40	70
Newburyport	1.10¶	1.50	1.00
New Haven	90†	1.25	60
New London	.....	1.30	60
Newport	1.05	.....	70
New York	85@90	1.25	35
Newark	.....	1.49	.....
Newburg	.....	1.30	.....
Newbern	85	.....	.....
Norfolk, Va	50	45	.....
Norwich	1.15	1.45	70
Norwalk, Conn	.....	1.35	55
Pawtucket	1.15‡	1.40	75
Petersburg	70@78	.....	.....
Philadelphia	.....	71	.....
Portland	97½†	1.30	75
Portsmouth, N.H.	1.20	1.40	1.00
Providence	1.00@1.05	1.30	70
Quincy Point	.....	.....	90
Richmond, Va	60	.....	.....
Rockland	.....	.....	85
Saco	1.45	.....	1.05
Salem, Mass.	1.28	1.40	85
Salisbury	1.30‡	.....	.....
Saugus	1.30	.....	.....
Somerset	1.35	.....	70
Staten Island	91	.....	20
Trenton	.....	1.60	.....
Troy	.....	1.70	.....
Wareham	.....	1.40	.....
Washington	60	60	.....
Weymouth	1.10	.....	.....
Williamsburg	.....	.....	35
Wilmington	.....	70	.....
Yarmouth, N. S.	.....	.....	1.25

New York to Boston, 80@85.

*And discharging and towing. † And discharging. ‡ And towing. § 3c. per bridge extra. ¶ And pilotage.

Lake Freights on Coal and Iron Ore.

Representing the latest actual charters up to Sept. 11th.

From	To	Rate per ton.	From	To	Rate per ton.
Ashtabula	Milwauk'e	30	Cleveland	Milwaukee	30
"	Chicago	45	Escanaba	Cleveland*	90–$1
"	Cleveland*	70	"	Ashtabl'a*	90
Bay City	Chicago*	60	Marquette	Chicago	$1.20
Black Riv.	Chicago	40	"	Cleveland*	1.20
"	Milwaukee	45	"	Ashtabl'a*	1.00
Buffalo	Cleveland*	40	"	Buffalo*	1.80
"	Chicago*	40	Oswego	Chicago	80
"	Chicago	30–40	"	Milwaukee	86
Charlotte	Chicago	70	"	Detroit	45
"	Milwaukee	70	Sandusky	Toronto	90
Chicago	Milwaukee	25	"	Sheboy'g'n.	55
Cleveland	Toronto	80	Toledo	Milwaukee	50
"	Chicago	40	"	Cleveland*	40

* Iron ore.

Rates of Freight on Anthracite Coal to Tide-Water Ports.

SCHUYLKILL COALS. Per ton of 2,240 lb.	From *Pine Grove.	From *Tamaqua.	From *Schuylkill Haven.	From Port Clinton.
To *Port Richmond*, via P. & R. R. R., Main Line, for shipment	1.95	1.90	1.75	.....
To *Harrisburg*, via Lebanon Valley Branch	1.29	1.85	1.70	.....
To *Allentown*, via East Pennsylvania Branch	1.59	1.74	1.59	.....
To *Lancaster*, and Points on Lancaster Branch, via R. & C. R. R.	1.71	1.66	1.51	.....
To *Dauphin*, via Schuylkill and Susquehanna Branch	1.09	1.52	1.37	.....
To *Slatedale Junction*, via Berks and Lehigh ranch	1.74	1.69	1.54	.....
To *Lebanon*, via Lebanon and Tremont Branch	98	.....	.....	.....
To *Philadelphia*, via Schuylkill Canal, including freight and charges for the use of cars and barges, and for tolls (exclusive of cost of loading, trimming and unloading)	.....	.....	1.65	1.55
To *New York*, via Schuylkill Canal, including freight and charges for the use of cars and barges and tolls on the Schuylkill Canal and Delaware & Raritan Canal and the towing between Fairmount and Bordentown and between New Brunswick and New York (exclusive of cost of loading, trimming and unloading)	.....	.....	2 50	2.40

From *Tamanend*† to *Catawissa, McAuley, Mainville, Rupert* and *Danville*, via Catawissa & Williamsport Branch Railroad 100

From *Tamanend*† to *Williamsport, Hall's* and *Montoursville*, via Catawissa & Williamsport Branch Railroad 135

*For shipment via Main Road or Schuylkill Canal, one and one-half cents per ton per mile, and two cents per ton additional to Schuylkill Haven, Pine Grove, Tamaqua or Port Clinton, for Canal, as the case may be. Provided no charge shall be less that 15 cents, or greater than 45 cents per ton

† Coal sent to points on the Catawissa and Williamsport branch will be charged one and one half cents per ton per mile, and two cents per ton additional to Tamanend.

A deduction of 20 per cent will be made from the above rates upon all coal consigned for actual consumption at iron works upon the line of the railroad, any of its branches, or the Schuylkill Canal.

An additional charge of 25 cents per ton will be made on chestnut and pea coal to whatever points consigned. If the shipper signs a release of all demands arising from a deficiency of weight at the place of destination, and agrees to indemnify the company from all claims by reason thereof, such additional charge will not be made. Releases, properly prepared, will be furnished, and can be signed at the coal offices of the company, at St. Clair, Palo Alto, Schuylkill Haven, Mount Carbon, Pine Grove, and Tamaqua.

For consumption at local points in coal region, including Shamokin, Herndon, Schuylkill Haven, Pine Grove, and Tamaqua, three cents per ton per mile, and two cents per ton additional ; and a charge for *car service* of fifteen cents per ton when in Philadelphia and Reading Railroad cars, provided no charge, including freight tolls and car service, shall be less than twenty-five cents per ton. If the coal is for manufacturers, the rate wi be two cents per ton per mile, and two cents per ton additional ; and a charge for car service of five cents per ton when in Philadelphia and Reading Railroad cars. Provided no charge, including freight, tolls, and car service, shall be less than fifteen cents per ton.

Sent westward via Northern Central ilway (in N. C. R W. Co.'s cars), four and two tenths cents per ton per mile, to Locust Gap, Shamokin, or Herndon, provided no charge will be made less than fifteen cents per on.

One mile extra will be added for coal passing through the East Mahanoy Tunnel.

Fractions of distances and rates will always be stated in *tenths.*

No charge will be made for weighing or making returns of coal shipped, and the latter will be furnished free of charge upon application to the weighmaster; if these returns are to be sent by mail, envelopes properly stamped and addressed, must be furnished to the weighmasters.

All coal will be charged the rates (both lateral and main line) current on the day it is weighed ; it will also be waybilled on the same day.

Ocean Freights.

Ocean Freights on coal, iron, etc., per ton of 2000 lbs., to and from foreign and domestic ports, for four weeks, ending September 12, 1878, are given below.

DATE.	From	To	Cargo.	R'te
Aug. 13	Hoboken	Charlottetown	Coal	1.50
" 22	New York	Genoa	Coal	4.00
" 29	Port Johnson	St. Johns, N. B.	Coal	1.00
" 29	Baltimore	Kingston, Jam.	Coal	3.50
" 30	Hoboken	Charlottetown.	Coal	1.40
Sept. 3	Hoboken	Key West	Coal	2.25
" 5	San Francisco	Nanaimo	Coal	3.00
" 7	Georgetown	Aspinwall	Coal	4.00
" 9	Philadelphia	Aspinwall	Coal	4.00
" 12	New York	Yarmouth, N.S.	Coal	1.25

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Sept. 13, 1878.

American Pig.—We note a sale of 2000 tons of Thomas iron, No. 2 X and forge, on private terms. Outside of this there have been sales of a few hundred tons in lots, at prices varying with quality,

etc. There is no improvement noticeable; in fact, if any change has taken place, it has been rather for the worse. Prices are very weak. The failure of the Oxford Iron Co., has had no particular effect upon the market, although from the very bad exhibit made, buyers will naturally look for additional failures, and, in the mean time, feel that they practically have things their own way. We quote: No. 1 foundry, at $16@$18; No. 2 foundry, $15@$17; and forge, $14@$14.50.

Scotch Pig.—We note sales of 100 tons of Eglinton and 100 tons of Glengarnock, on private terms. We quote: Eglinton at $21.50@$22.50; Glengarnock, $23@$24; Coltness, $23.50@$24.50.

Rails.—The makers of steel rails have not arrived at any understanding yet. We learn of no business in either iron or steel rails, and quote nominally at $32@$36 for iron, and $42@$45 for steel rails at mills.

Old Rails.—We note a sale of 1000 tons of old rails on private terms, and quote nominally, at $16.50@17.50. We hear, through our correspondents, of a good demand for old rails in other parts of the country.

Wrought Scrap.—We note a sale of 300 tons at $21, delivered at Providence, and at $19@$20 from yard.

Baltimore. Sept. 9, 1878.

[Specially reported by Messrs. R. C. HOFFMAN & Co.]

With more inquiry and a better feeling in the iron market, prices for car-wheel iron are very firm, at about quotations, viz.:

Balt. Char.	$26.00@$28.00	M. & White	$13.00@$14.00
Va. "	26.00@ 28.00	C'lC.B.Blooms	50.00@ 52.00
Anth.No.1	19.00@ 20.00	" " Billetts	52.00@ 55.00
" " 2	18.00@ 19.00	Refi'd Blooms	43.00@ 45.00
" " 3	16.00@ 17.00		

Buffalo. Sept. 10, 1878.

[Specially reported by Messrs. PALEN & BURNS.]

	4 mos
No. 1 Foundry	$17.50
No. 2 "	16.50
Mill	15.00
Silver Gray	16.00
American Scotch A 1	18.00
" " B 1	17.00
" " No. 2	16.50

Chattanooga. Sept. 9, 1878.

[Specially reported by J. F. JAMES, Dealer in Iron & Metals.]

Tenn., Ala. & Ga. Charcoal, No. 1 Foundry	$16 00@$17 00		
Tenn., Ala. & Ga. Charcoal, No. 2 Foundry	15 00@ 16 00		
Tenn., Ala. & Ga. Charcoal, Gray Forge	13 00@ 15 00		
Tenn., Ala. & Ga. Coke, No. 1 Foundry	18 00@ 19 00		
Tenn., Ala. & Ga. Coke, No. 2 Foundry	16 00@ 17 00		
Tenn., Ala. & Ga. Coke, Gray Forge	14 00@ 15 00		
Charcoal or Coke, white and mottled	13 00@		
Old rails	$18 00@$19 00	Wr'ght scrap, No. 2	$11 00
Old car wh'ls	16 00@ 17 00	Cast scrap	10 00
Wr'ght scrap, No. 1	16 00	Muck bar	30 00@ 32 00

IRON ORES.

Red hematite or fossiliferous f. o. c. at mines, about 55 per cent metallic iron	$1.25
Brown hematite about 55 per cent metallic iron	1.75

Cincinnati, O. Sept. 10, 1878.

[Specially reported by Messrs. TRABER & AUBERY, Commission Merchants for the sale of pig iron, blooms, ore, etc.]

Below please find closing quotations of our pig-iron market, viz.:

CHARCOAL.

H'n'g Rock	No. 1 Foundry & B 1	$21 00@$22 00	—4 mos
"	No. 2 "	20 00@ 21.00	—4 mos.
"	Soft Silver Gray	18 00@ 19.00	—4 mos.
"	Mill	18 00@ 19.00	—4 mos.
Tennessee	No. 1 Foundry	21 00@	—4 mos.
"	No. 2 "	20 00@	—4 mos.
"	Mill	18 00@	—4 mos

STONE COAL.

Ohio	No. 1 Foundry	$17 00@	—4 mos.
"	No. 2 "	16 00@	—4 mos.
"	No. 3 "	15 00@	—4 mos.
"	No. 4 "	14 00@	—4 mos.
"	Mill	16 00@	—4 mos.

COKE.

Ohio & W. Va.	No. 1 Foundry	18 00@ 19 00	—4 mos.
" "	No. 2 "	17 00@	—4 mos.
" "	Stove	16 00@	—4 mos.
" "	Mill	17 00@	—4 mos.

CAR-WHEEL.

H'n'g R., C. B	Hecla, Vesuvius, Etna, Buckhorn, Jefferson.	$30 00@ 35 00	—4 mos.
Maryland,	Cedar Point	35 00@	—4 mos
Missouri,	Maramec	28 00@	—4 mos

BLOOMS.

Charcoal	$45 00@$50 00—cash

SCRAP IRON.

Cast	40c. @ 45c.—cash
Wrought	62½c.@ $1.00—cash

Columbus, Ohio. Sept. 10, 1878.

[Specially reported by Messrs. KING, GILBERT & WARNER, Dealers in Pig Iron and Ores.]

There is a little more inquiry for pig-iron and a larger amount of business doing, but no material improvement in prices. The best grades of strong irons are scarce, and are held firm, while the soft irons are in good supply.

The usual time, four months, allowed on quotations.

FOUNDRY IRONS

No. 1 Hanging Rock Charcoal	$22 00@$22 50
No. 2 " " "	@
No. 1 Hocking Valley soft and strong from pure limestone ores	18 00@ 18 50
No. 2 Hocking Valley soft and strong from pure limestone ores	17 00@ 17 50
No. 1 American Scotch	18 00@ 18 50
No. 1 Moxahala	18 00@ 18 50
No. 2 "	17 00@ 17 50
No. 1 Shawnee	18 00@ 18 50
No. 1 Eliza (Jackson County)	18 00@ 18 50
Silver Gray	16 50@ 17 00

MILL IRONS.

Gray neutral	16 00@ 17 00
Mottled and white neutral	15 50@ 16 00
Gray cold short	16 00@ 16 50
Mottled and white cold short	15 00@ 15 50

Cleveland, O. Sept. 10, 1878.

[Specially reported by Messrs. C. E. BINGHAM & Co.]

Per gross ton, on four months' time. Subject to change without notice.

FOUNDRY IRON.

No. 1 L. S. Charcoal	$23 00	Am. S., No. 1, Ch. Val	$20 00
No. 2 " "	22 00	" " B—1, " "	18 00
No. 1 Anthracite	20 00	" " No. 2 " "	18 00
No. 2 "	19 00	No. 1, Massillon	19 00
No. 1 Bituminous	20 00	B—1, "	17 00
No. 2 "	18 00	No. 2, "	16 00

CAR-WHEEL AND MALLEABLE IRON.

No. 3, L. S. Charcoal	$24 00	Nos. 5 & 6, L. S. Char.	$24 00
No 4, " "	24 00		

BESSEMER IRON.

Nos. 1 & 2, L. S. Char	$23 00

FORGE IRON.

No. 1, Gray	$18 00	White and Mottled	$16 00

Louisville, Ky. Sept. 10, 1878.

[Specially reported by Messrs. GEORGE H. HULL & Co.]

The market continues firm at full price. Several furnaces have advanced their limits. This has curtailed sales somewhat, but there is no disposition on the part of these furnaces to accept prices current last week, and appearances indicate that the advance will be sustained.

The usual time, 4 months, allowed on quotations below:

FOUNDRY IRONS.

	No. 1.	No. 2.
Hanging Rock Charcoal	$21 00@$22 00	$19 00@$20 00
Southern Charcoal	18 50@ 19 00	17 00@ 17 50
H'n'g Rock, Stc'l & Coke	19 00@ 20 00	18 00@ 18 50
Southern Stonecoal & Coke	18 50@ 19 00	17 00@ 17 50
"Amer. Scotch"	$18@$19	Silver Gray $15@$17.00

MILL IRONS.

No. 1 Charcoal, Cold-short & Neutral	$16 00@$17 00
No. 1 Stc'l & Coke, Cold-short & Neutral	16 00@ 16 50
No. 2 Stc'l & Coke, Cold-short & Neutral	15 00@ 15 50
No. 1 Missouri and Indiana, Red-short	20 00@ 21 00
White & Mottled, Cold-short & Neutral	14 50@ 15 00

CAR-WHEEL AND MALLEABLE IRONS.

Hanging Rock, Cold Blast	$28 00@$30 00
Alabama and Georgia, Cold Blast	27 00@ 28 00
Kentucky, Cold Blast	24 00@ 27 00

Milwaukee, Wis. Sept. 10, 1878.

[Specially reported by Messrs. R. P. ELMORE & Co.]

CHARCOAL IRON.

No. 1 Lake Superior per gross ton	$23 00—4 mos.
" 2 " " " "	22 00—4 mos.

ANTHRACITE IRON.

No. 1 Anthracite per gross ton	23 00—4 mos.
" 2 " " "	22 00—4 mos.

STONE COAL AND COKE.

Warner's Am Sc'th (Bk. Band, per ton	$24 00@ —4 mos.
Soft Silvery per ton	21 00@ —4 mos.
Ohio Stone Coal	22 00@ —4 mos.

CAR WHEEL.

Lake Superior ores per ton	$24 00@25 00—4 mos

Pittsburg, Pa. Sept. 10, 1878.

[Specially reported by A. H. CHILDS.]

	4 mos.		4 mos.
No. 1 F'dry	$19.00@$20.00	M. & White	$15.00@$16.00
No. 2 "	18.00@ 19.00	Hot Blast Ch.	20.00@ 23.00
Gray Forge	16.50@ 19.00	Cold Blast W.	35.00@ 37.00

Richmond, Va. Sept. 10, 1878.

[Specially reported by ASA SNYDER, Esq.]

Our foundries are busy, and sales of pig-iron reasonably active at quotations. Old rails are in demand.

Amer. Scotch Pig Iron			$22.00@$23.00
Anthracite	" "	No. 1	19.00@ 20.00
"	" "	No. 2	18.50@ 19.00
"	" "	No. 3	17.00@ 18.00
"	"	Mottled	15.00@ 16.00
Coke	"	No. 1	19.00@ 20.00
"	"	No. 2	18.00@ 19.00
Va. Cold Blast Charcoal Pig Iron, cold short			19.00@ 22.00
" " " " "		neutral	27.00@ 29.00
" Warm " " "		cold short	18.00@ 20.00
" " " " "		mill	17 00@ 18 00
Old Rails			16.00@ 17.00
Wrought scrap No. 1			17.00@ 18.00
Cast scrap—Machinery			17.00@
Richmond Refined Bar Iron			2.00@ 2.10
Horse-shoes			4.25@ 4.50
Mule-shoes			5.50@
Old Dominion nails (standard size)			2.25 keg.

Freight by sail to New York, $1.60 for 2240 lbs.

St. Louis, Mo. Sept. 10, 1878.

[Specially reported by Messrs. SPOONER & COLLINS, Commission Agents for all kinds of Iron.]

Trade in pig-iron the past week has been only fair. Prices same as last reported. Old rails in fair demand only. Prices low.

COLD BLAST CHARCOAL—ALL NUMBERS.

Hanging Rock	$28@$33	Assorted Bar Iron	$1.75 rates.			
Tennessee	25@ 30	No. 1 Wr'ght Scrap,	70c. cwt.			
Kentucky	25@ 30	Heavy cast "	60c. "			
Missouri	25@ 30	Light " "	40c. "			
Georgia	25@ 30	Old rails	$19 00@$20 00			
Alabama	25@ 30	Old carwheels	17 00@ 18 00			

	No. 1.	No. 2.	Mill.	White and Mottl'd
Missouri stone coal	$22 00	$21 00	$19 00	$17 00
" charcoal	20 00	19 00	18 00	16 00
Tennessee charcoal	20 50	19 00	17 50	16 00
Tenn. coke very soft and strong	20 00	19 00	17 00	15 00
Hanging Rock charcoal	24 00	23 00	21 00	20 00
" " cold short	23 00	21 00	20 00	
	Ex No. 1	No. 1.	B No. 1.	No. 2.
Alice Hanging Rock coke	$23 00	$22 00	$21 00	$19 00
Moxahala Black Band ores	23 00	22 00	21 00	19 00

METALS.

NEW YORK, Friday Evening, Sept. 13, 1878.

The market for metals during the past week has been a quiet one, although hopes are not yet destroyed that we shall have a fair fall business.

RECEIPTS OF METALS AT NEW YORK FOR THE FOUR WEEKS ENDING SEPTEMBER 12TH AND YEAR FROM JANUARY 1ST, 1878.

	Aug. 22.	Aug. 29.	Sept. 5.	Sept. 12.	Year from Jan. 1
Copper, bbls	1,146	632	56	716	17,551
Copper, boxes	....	.....	....	.....	113
Copper, cakes	372	449	....	.....	11,859
Lead, pigs	4,170	3,230	4,149	1,877	223,985
Spelter, pieces	1,703	.....	549	1,052	33,266
Quicksil'r, flasks	....	.....	62	.....	971

Gold Coin.—During the week under review the price of gold has ranged from 100¼ to 100⅛, and closed at 100¼.

Copper.—We learn of sales of about 250,000 lbs., at 16 cents, at which price the market is firm; awaiting the developments of some new "deal" which must come. The market is without feature.

Correspondence, dated London, September 3d, 1878, says of copper:

"The market is thoroughly disorganized, and buyers can only be tempted to purchase, even in moderate quantities, by a good concession on last week's prices; values of bars are, therefore, purely nominal, it being impossible to do any important business at the current quotations. A sale of 50 tons good, ordinary brand is reported to have been made yesterday in Liverpool, at £61 cash. To-day we hear of, in this market, 25 tons at £60¾, and 25 tons at £60½, but at the latter figure a few small lots were obtainable at the close, and did not find takers. Whether any further fall will take place, it is impossible to say; the quotations, however, are weak, and a little pressure to sell would probably cause a fall to £60. It should not, in this case, be forgotten, that the said figure is the lowest on record, and was only just touched during the Franco-German war, when statistics were as unfavorable as at the present moment, while the then outlook was decidedly worse, as the French demand had been almost annihilated."

Under date of London, September 2, we get the following:

"The Chili Charters were advised this afternoon as 4000 tons fine; of which 3500 tons in bars and ingots, 300 tons in ores and regulus for England, and 200 tons bars for France.

Charters.	1878. Tons.	1877. Tons.	1876. Tons.	1875. Tons.
1st Jan. to 31st Aug	32,461	28,454	31,267	32,097
August only	6,200	3,308	5,974	4,190

"Price at Valparaiso for bars on 31st ult. was $16.30; exchange, 37d.; steamer freight, 60s., equal to £61 15s., Liverpool, without merchants' commission. Although a large portion of the bars, as per above advices, is doubtless a transfer of the stock so long held back on the other side, nevertheless buyers have taken freight, and will not bid over £60 10s. for cash, and £61 5s. for forward metal, which figures are, as yet, quite impracticable; and, in fact, seeing the disorganized state of the market, most holders decline to quote, except on the basis of prices ruling at the close of last week. It is rumored, however, that a few second-hand lots of G.O.B.'s are to be obtained, at £61 cash; but, for our own part, we have not been offered any at so low a figure.

"A small sale of Wallaroo cake reported at £70; Burra remains at £68 10s.@£69, with nothing doing."

STATISTICS OF COPPER—LONDON, LIVERPOOL, SWANSEA, AND FRANCE.

	Stocks. Aug. 31st. Tons.	Stocks. July 31st. Tons.	
Fine foreign, chiefly Australian	5,953	6,185	London.
Chili Bars	49	49	London.
Chili " and ingots	19,104	18,483	Liverpool & Swansea.
Chili In ores and regulus	3,845	4,178	Liverpool & Swansea.
Totals, England	28,991	28,895	
Fine foreign, chiefly American	625	650	France.
Chili bars, ingots and barilla	6,219	9,770	France.
Total	38,835	39,315	
Chili, chartered and afloat: Mail	6,309	4,412	
Chili, chartered and afloat: Telegram	3,600	4,400	
Tons	48,744	48,127	

Tin.—Straits in London is quoted at £57, against £58 10s. a week ago, and at Penang, $17.80. Exchange is 3s. 9½d., with a downward tendency. There has been a good jobbing business here, and sales have been made at 13¼c. The asking price on spot is

13⅝c., but tin can be secured at 13¼c. Lots to arrive at the latter end of this month are not salable at this figure, while for October and November delivery but 13c. is bid. L. & F. is very quiet, and quoted at 13¾c. Refined is quite nominal at 14c., and Banca at 17c.

Correspondence dated London, September 3d, 1878, says of tin: Steady at yesterday's values—20 tons reported at 58½s., and 5 at 58s., cash. We closed with sellers at the higher, buyers at the lower price, with a possibility of picking up some metal at 58¼s. by making the firm offer.

Statistics of Foreign Tin—London and Holland.

	—During August.— Imports. Tons.	Deliveries. Tons.	——Stocks.—— Aug. 31. Tons.	July 31. Tons.
London:				
Straits 540 tons, Australian 527 tons	1,067	1,031	10,111	10,075
Banca, ex sale	Nil.	338	1,187	1,525
Holland:				
Billiton	356	324	1,807	1,775
Australian	Nil.	Nil.	426	426
	1,423	1,693	13,531	13,801
In transit, Straits, 89 tons; Australian, 150 tons	239	239	.....	.....
	1,662	1,932	13,531	13,801
Estimated quantity afloat for Europe:				
Straits			120	500
Billiton			1,250	1,000
Australian			2,100	1,700
			17,001	17,001

Tin Plates.—The market for these has been rather quiet, although a fair business is doing in a small way. We quote as follows: Charcoal bright, ⅛ X Melyn grade, $5.80@$6, and Allaway, $5.60@$5.75; charcoal roofing, I.C., 14×20, S. T. P. grade, $5.37½@$5.50; coke bright, 14×20, B. V. grade, $4.75, and coke roofing, 14×20, $4.75.

Messrs. Robt. Crooks & Co., of Liverpool, under date of Aug. 29th, say of tin and terne plates:

"No material change—demand for our principal market, the U. S., continuing very unusually light. This naturally is having a depressing effect on holders of second-hand parcels, many of whom, to realize, would accept bids 3d. under late lowest figures, and from 6d. to 9d. under makers' prices for same brands. Until these speculators' lots are cleared off, we can hardly look for an improvement in price of coke tins."

Lead.—We only note sales of about 250 tons of ordinary lead at 3·45c. There are no features of importance to the market. Prices are fairly steady, although inclining to lower figures rather than to an advance.

Late numbers of the San Francisco papers note the opening of trade in lead between that port and Australia. The *Commercial Herald* of Sept. 5th says:

"The City of Tokio, for Hong Kong, carried 718,560 lbs. pig-lead, and to Japan, 40,889 lbs. same. The Christine, for Sydney, carried 72,736 lbs. same."

The export business from the Pacific Coast, although in its infancy, has assumed very satisfactory proportions.

Spelter and Zinc.—Ordinary spelter is quiet but firm at 4¼@5c. Bergen Port from Lehigh ores is quoted at 9c. Sheet zinc is in moderate request at 5¾c.

Antimony.—There is but a light business doing. Cookson's is quoted at 12¼c., while Hallet's, due here now, is quoted at 12c.

Quicksilver.—The San Francisco *Commercial Herald* of September 5th says: "The market continues dull and sluggish, with small sales at 42@42½c. We have good reason to believe that a contract for 1000 flasks has recently been concluded, for home use, at 40c. The Georgia to-day takes 100 flasks for Mamanillo, shipped by Thannhauser & Co., valued at $3213, and 500 flasks for Mazatlan, shipped by Thomas Bell, valued at $16,065.

Our monthly receipts of this article compare with 1877 as follows:

Month.	1877. Flasks.	1878. Flasks.
January	5,414	4,290
February	7,301	2,686
March	5,441	2,762
April	6,115	5,375
May	7,052	5,738
June	5,632	5,956
July	5,337	5,116
August	6,050	6,239
Totals	48,342	38,162

Bullion.—We have to report a further decline in silver in London. A cable dispatch to-day quotes 51⅛d., or about 112⅛ per oz. here. This decline we understand to have been caused by the offer and sale of as small an amount as $300,000. It is impossible to forecast the early future of the market, in the absence of all demand for silver from the Continent of Europe, and with the Indian Council supplying, by its weekly offerings of bills, all the exchange that is wanted for India. The shipments to the East for the eight months of this year are $25,000,000 less than for the like period of last year. San Francisco quotes at 11 per cent discount.

DAILY RANGE OF SILVER IN LONDON AND NEW YORK, PER OZ.

DATE.	London Pence.	N. Y. Cents.	DATE.	London Pence.	N. Y. Cents.
Sept. 7...	51⅛	113¼	Sept. 11	51¾	113
Sept. 9....	51¾	113	Sept. 12	51¾	113
Sept. 10....	51¾	113	Sept. 13	51½	112½

BULLION SHIPMENTS.

We give below a statement showing the latest bullion shipments in addition to those announced in our issue of Sept. 7th:

Aug. 28, Northern Belle,	Nevada	$3,943.35
" 31, California,	"	42,135.48
" 31, Con. Virginia,	"	28,771.21
" 31, Tybo Consolidated,	"	4,411.35
" 31, Bodie,	California	25,000.00
" 31, Standard,	"	20,955.31
" 31, McCracken,	Arizona	9,632.40
" 31, Christy,	Utah	5,653.00
" 31, Ontario,	"	52,848.52
" 28, Cariboo,	British Colum.	24,405.00

The Bullion Tax on the mines of Lincoln County, Nevada, for the quarter ending June 30th, 1878, was $1298.11.

San Francisco Mint Coinage.—The following is the report of the coinage of the United States Mint at San Francisco for the month ending August 31st, 1878:

Denomination.	Value.	No. of pieces.
(Gold) double eagles	$3,820,000	191,000
Quarter eagles	125,000	50,000
(Silver) standard dollars	1,664,000	1,664,000
Grand total	$5,609,000	1,905,000

Resumption of Silver—The following order has been issued by the Secretary of the Treasury under date of the 7th inst.: "On and after the 16th day of this month you are authorized, at the Treasury in Washington, and at the several Sub-Treasuries in the United States, to exchange standard silver dollars for United States notes."

Circulation of the Silver Dollar.—Twenty-two tons of fine silver, amounting to $800,000, were recently shipped from the United States Assay Office at New York to the Philadelphia Mint, for the coinage of silver dollars. Total amount of shipments to the 9th inst. from the 24th of July, $2,100,000. The recent orders of the Treasury Department with reference to the distribution of standard silver dollars will add materially to the business of the express companies, and the transportation of the coin to the various Sub-Treasuries will cost the government quite a large sum. The weight of 1,000,000 silver dollars is over twenty-six tons, and the payment in silver of one day's customs duties would average about 30,000 pounds or fifteen tons of standard silver dollars, should the coin be placed in actual use for the payment of those duties.

The Pacific Coast Bullion Product.—The San Francisco *Bulletin* furnishes the following monthly reports from the productive mines of California, Nevada, Utah, Arizona, and Dakota. Comprising the reports of thirty-three mines for July:

Gold mines	$282,404
Gold with silver	419,521
Gold with lead	154,717
Total gold	$856,642
Silver mines	$616,871
Silver with gold	327,944
Silver with lead	232,832
Total silver	$1,177,647
Value of lead	97,635
Total gold, silver, and lead	$2,131,924

This is the smallest monthly total this year. It is $419,000 less than in June. The July silver yield is $306,000 less than that of June; the June silver yield was $425,000 less than that of May; and the May silver yield was $464,000 less than that of April. Altogether, since April there has been a decrease of $1,195,000 in the silver product. The bullion yield of the mines reporting for the first seven months of 1878 were as follows:

	Mines.	Product.
January	28	$4,849,800
February	30	4,661,700
March	34	4,928,400
April	25	4,161,400
May	40	3,285,300
June	36	2,550,200
July	33	2,131,900
Total		$26,568,700

Fully 40 per cent of the above is gold, $700,000 in lead, and the rest is silver.

"*The Specie Movements at New York.*—The *Shipping and Commercial List* reports the following: "The following shows the exports of specie from this port for the week ended September 7:

Total for the week	$49,710
Previously reported	10,209,735
Total since January 1, 1878	$10,259,445
Same time in 1877	22,312,787
Same time in 1876	39,833,722
Same time in 1875	62,450,072

The following shows the imports of specie at this port for the week ended September 7:

Total for the week	$61,105
Previously reported	14,838,235
Total since January 1, 1878	$14,899,340
Same time in 1877	9,898,182
Same time in 1876	3,613,367
Same time in 1875	8,585,806

The Silver Movement.—WASHINGTON, September 12.—The silver standard dollars are rapidly going West under the regulation of a recent Treasury circular. Yestesday $75,000 in currency was exchanged for silver dollars. Most of this goes to the Northwestern States, and to-day the total demand amounted to $120,000.

Salt Lake Ore and Metal Market.

SALT LAKE CITY, Utah, September 13, 1878.

Argentiferous Lead (Base Bullion), $22 to $25 per ton for lead; $1.13 to $1.15 per ounce for silver; $20 per ounce for gold. The quotations for silver are based upon the silver in the lead of 80 to 120 ounces per ton of 2000 lbs.

Mr. J. B. Meader reports the following shipments under date of September 7th:

	Lbs.	
Shipments of base bullion for August 1878	3,316,874	
" " " seven months	22,867,349	
Total for eight months		26,184,223
Shipments of lead (Germania refined), in August	163,914	
Shipments of lead (Germania refined), previous	1,628,851	
		1,792,765
Ore shipments for August, reduced to lead	152,007	
Ore shipments for seven months	878,409	
		1,030,416
Total shipments of lead for eight months		29,007,404
Same time for 1877		38,088,233
Decrease in 1878		9,080,829

The *Inter Ocean's* correspondent under date of the 2d inst., reports the following:

"The bullion market continues inactive, with no sales made public.

"The shipments of ore and bullion for the week ending August 31st, are as follows: 23 cars bullion to Pittsburg, 4 cars bullion to Omaha, 10 cars bullion to Chicago, 6 cars ore to Omaha, 1 car ore Hillard—44 cars. Bullion, 770,371 pounds; ore, 150,549 pounds; total, 920,920 pounds."

FINANCIAL.

Miscellaneous Stocks and Quotations.

Sales and quotations of the stocks and bonds dealt in here, at Philadelphia and Baltimore for the week ending the 13th inst. are given in the following tables. The Philadelphia quotations will have a * affixed. The Baltimore quotations are indicated thus †.

STOCKS.	Par Value.	High'st	Lowest	Closing	Sales: Shares.
American Coal Co.	$25	.....	.....	28	.....
St.L.,I.M.& S.R.Co..	100	.....	.....	5	.....
Spring Mt. Coal Co.	50	.....	.....	50	.....
*Cambria Iron Co..	50	.....	.....	55	.....
*Penn. Salt Mf'g Co.	50	.....	.....	67½	.....
*Westm'land C. Co.	50	.....	.....	60	.....
*Buck Mt. Coal Co..	50	.....	.....	36	.....
*Schuyl. Nav. Co...	50	.....	.....	.....	.....
†B.&O.RR.Co.1st pf	.....	.....	.....	93	.....
†B.&O.RR.Co.2d pf	100	.....	.....	85	.....
" " " " com	90	91⅛	88½	93	.....
†George's C'k C. Co	100	.....	.....	86½	.....
†S. Clara M'g Co ..	100	.....	.....	25	.....
†Atlantic Coal Co.	10	.....	.....	1.15	.....

BONDS.	Princ'l. When Due.	Int'est. When Due.	Hig'st.	Lowest	Amount.
D., L. & W., 7s, conv	1892	J. & D.	103½	.....	1,000
" " " 2d mtge.	1881	M. & S.	103½	.....	1,000
N.J.C., 1st mtge. new	1890	F. & A.	114	113½	14,000
" " " 1st mtge., con	1899	Q.	82	.....	1,000
" " " convt.	1902	M. & N.	.....	.....	.....
Lehigh & W. B., con	1899	Q.	.....	.....	.....
Am. Dock & Imp. 7s	.....	J. & J.	56	.....	2,000
St.L.I.M.& S..1st mt	1892	F. & A.	104	103½	11,000
Ches. & O., 1st mtge	1899	M. & N.	.....	.....	.....
D & H C Co., 1st m.rg	1884	J. & J.	101	.....	2,000
" " " " "	1891	J. & J.	.....	.....	.....
" " " " m.loan cp	1894	A. & O.	.....	.....	.....
" " " " " rg.	1894	A. & O.	.....	.....	.....
" " " " new mge.	.....	.....	.....	.....	.....
*L.V.R., 1stm.6s.cp.	1898	J. & D.	.....	.....	.....
" " " " rg.	1898	J. & D.	101½	.....	3,000
" " " 2d m. 7s, rg.	1910	M. & S.	113¾	.....	1,000
" " " con.m.6s, rg	1823	J. & D.	99¾	.....	2,000
" " " " 6s cp.	1923	J. & D.	99¾	.....	1,000
*Pa.RR.,1st m.6s,cp	1880	J. & J.	104⅜	.....	2,000
" " g. m., 6s, cp.	1910	J. & J.	.....	.....	.....
" " " 6s, rg.	1910	A. & O.	.....	.....	.....
" " con.m.6s, rg.	1905	Q.	96	.....	2,000
" " " 6s, cp.	1905	J. & D.	.....	.....	.....
" " new loan, 3s	.....	.....	111¾	111½	5,500
*P.& R. R., 1st m.6s, R. C. 43-44	1880	J. & J.	104¼	....	1,000
P. & R. R., 1st m. 6s, R. C. 48-49	1880	J. & J	.....	.....	.....
P.& R. R.,2d m.7s cp	1893	A. & O.	.....	.....	.....
" " " scrip	1882	J. & J.	58	.....	1,000
" " " in.m.7s,cp	1896	J. & D.	.....	.....	.....
" " " c.m.7s,cp.	1911	J. & D.	102½	.....	11,000
" " " " 7s. rg.	1911	J. & D.	102½	.....	1,000
" " " cvt.7s,R.C	1893	J. & J.	35*	.....	1,000
" " C.& I.Co.,Deb 7s, R. C.	1892	M. & S.	.....	.....	.....
& R.C.& I. Co., m. 7s, R. C	'92-3	various	.....	.....	.....
L. Nav. Co.,6s,rg.m.	1884	J. & D.	106	105	10,350
" " RR., rg. m.	1897	F. & A.	105	.....	200
" " cvt. co. G. R.	1894	M. & S.	.....	.....	.....
" " " Gold R. C.	1897	J. & D.	95	94¼	5,500
" " con.m.7s,rg.	1911	J. & D.	.....	.....	.....
*P.& N.Y C.,7s,R.C.	1896 / 1906	J. & D.	.....	.....	.....
*Pa Canal, 6s, cp..	1910	J. & J.	.....	.....	.....
*Schuyl.Nav.,1st m. 6s. rg	1897	M. & S.	.....	.....	.....
*Sus.Coal, 6s, rg...	1911	J. & J.	.....	.....	.....
†Balt.&O. RR., 6s..	1880	J. & J.	.....	.....	.....
" " " " 6s..	1885	A. & O.	.....	.....	.....

Total transactions for the week..... $79,550

* Ex-Coupon. † Assessed.

New York Stocks.

NEW YORK, Friday Evening, Sept. 13, 1878.

The transactions in the coal stocks have been light during the past week. Delaware and Hudson Canal records sales of 1055 shares, at 49¼@48⅝@49⅝, closing at 49⅝. Delaware, Lackawanna, and Western has ranged between 52½ and 50½, closing at 52, the sales amounting to 75,570 shares. New Jersey

COAL TRANSPORTATION AND GENERAL MINING STOCKS.

COAL STOCKS.

NAME AND LOCATION OF COMPANY.		Feet on Vein.	Capital Stock.	SHARES. No.	SHARES. Par Val.	ASSESSMENTS. Total levi'd to date.	ASSESSMENTS. Date and amount per share of last. Mo.	Yr.	Amt.	DIVIDENDS. Total paid to date.	Last Dividend. Mo.	Yr.	Amt.	Rate per Ann.	HIGHEST AND LOWEST PRICES PER SHARE IN CURRENCY AT WHICH SALES WERE MADE. N. B.—Quotations of D., L. & W. R. R., and Pa. Coal Co. are per $100—two shares. Aug. 7. H.	L.	Sept. 9. H.	L.	Sept. 10. H.	L.	Sept 11. H.	L.	Sept. 12. H.	L.	Sept. 13. H.	L.	SALES.
			$		$					$				Per c'nt															
Consol. Coal	Md.		10,250,000	102,500	$100	*					Jan.	1877	2½																
Del. & H. Canal	Pa.		20,000,000	200,000	100	*				38,821,104	Aug.	1876	4	9	49¾	49¼	49¼	48⅝	48⅛	48⅛	49¼	49⅛			49⅜	49⅛	1,055
Del., Lac. & W. R. R.	Pa.		26,200,000	524,000	$50	*					July	1876	2½	5	52½	52	52¼	50⅜	51⅛	50⅛	51¾	51	52	51⅜	52⅛	51⅛	75,570
Lehigh C. & Nav.	Pa.		10,448,550	208,971	50	*					Nov.	1876	1½	5½	18⅜	18⅜	18¼	18¼	18⅛	18⅛			18⅜	18⅜	18⅜	18	415
Lehigh Valley R. R.	Pa.		27,228,855	540,858	50	*					July	1878	1		39¼	39	40	39½	39½	39½			39⅜	39½	39⅝	39⅜	485
Maryland Coal	Md.		4,400,000	44,000	100	*					Jan.	1876	1½	1½													
N. J. Central R. R.	Pa.		20,600,000	206,000	100	*					Apr.	1876	2½	2½	34¼	34	34¼	34	34⅛	33⅛	34¼	34	34¾	34	34⅝	34	2,010
Pennsylvania Coal	Pa.		5,000,000	100,000	50	*					May.	1878	3														
Pennsylvania R. R.	Pa.		68,870,200	1,337,404	50	*					May.	1877	1½	8	32⅞	32¾	32⅞	32¾	32⅝	32⅛	32¾	32⅝	33¼	32¾	33⅜	33¼	21,611
Phil. & Read. R. R.	Pa.		34,278,175	685,562	50	*				43,012,497	Jan.	1876	2¼+	10			16¾	16⅜	16⅝	16⅛	16¾	16⅝	16⅝	16⅜	16⅜	16¼	4,764

GENERAL MINING STOCKS.

Dividend Paying Mines.

American	Col.		1,000,000	100,000	10	*				80,000	Sept.	1878	$0 10	12															
Belcher, g. s.	Nev.	1,040	10,400,000	104,000	100	1,288,200	July	1878	1 00	15,397,200	Apr.	1876	1 00	12															
Bobtail, g.	Col.	2,500	1,136,630	227,326	5	*				56,831	Nov.	1877		25															
Bobtail Tunnel, g.	Col.		100,000	20,000	5	52,000	July	1873	0 30	48,000	June	1878		50	20														
California, g. s.	Nev.	600	54,000,000	540,000	100					29,160,000	Aug.	1878	1 00	24	11⅞				11½	11			11⅜				225
Calumet & Hecla, c.	Mch		2,000,000	80,000	25	1,200,000				13,450,000	Aug.	1878	5 00	20			1.79				179½						34
Central, c.	Mch		500,000	20,000	25	100,000	June	1862	0 65	1,260,000	Feb.	1878	5 00														
Chollar Potosi, g. s.	Nev.	1,400	2,800,000	28,000	100	1,750,000	Sept.	1878	5 00	3,060,000	Feb.	1872	1 00														
Copper Falls, c.	Mch		1,000,000	20,000	50	535,000	May.	1876		100,000	Nov.	1871	1 00														
Cons. Virginia, g. s.	Nev.	710	54,000,000	540,000	100	474,600	June	1873	3 00	40,500,000	June	1878	1 00	12	12⅞	12½	13⅛	12⅞			13½	12⅝	13¾	13	13¾	12⅝	435
Confidence, g. s.	Nev.	130	2,496,000	24,960	100	256,320	Apr.	1878	0 50	78,000	May.	1865	8½	8½													
Cons. Her. & Roe	Col.	16,500	1,000,000	100,000	10	*				120,000																	
Crown Point, g. s.	Nev.	600	10,000,000	100,000	100	1,773,370	June	1878	1 00	11,588,000	Jan..	1875	2 00	24													
Eureka Cons., g. s. l.	Nev.		5,000,000	50,000	100	100,000		1876	1 00	2,950,000	Aug.	1878	3 00	24													
Eureka G. Mg., g.	Cal.	1,680	2,000,000	20,000	100					2,149,000	Apr.	1878	0 25														
Franklin, c.	Mch		500,000	20,000	25	360,000	June	1876	5 00	585,000	Nov.	1871	1 00														
Gould &Curry, g. s.	Nev.	612	10,800,000	108,000	100	2,666,000	Apr.	1878	1 00	3,826,800	Oct.	1870	10 00														
Grand Prize	Nev.	1,500		100,000		100,000	July.	1878	1 00	400,000	Feb.	1878	1 00												6½		10
Hale & Norcross, g. s.	Nev.	400	11,200,000	112,000	100	2,914,000	Aug.	1878	1 00	1,598,000	Apr.	1871	5 00	12													
Hukill, g. s.	Col.	3,288	1,000,000	100,000	10	*				200,000	Sept.	1878	0 10	12	4				4		4						400
Independence	Nev.	1,500		100,000		55,000	Feb..	1878	15	15,000	Aug.	1878	25		2.75		3		3	2¾	3	2.90	2.85	2.80			760
Kentuck, g. s.	Nev.	95	3,000,000	30,000	100	300,000	Aug.	1878	1 00	1,252,000	Mar.	1870	5 00														
Leopard, l. g. s.	Nev.	1,500	5,000,000	50,000	100	150,000	June	1878	50	162,500	Dec.	1876	0 50														
Leviathan	Nev.	2,000		100,000		240,000	May.	1878	05														95		1	90c.	400
Merrimac, s.	Mas.	1,500	500,000	100,000	5	*				120,000	Mar.			12													
Minesota, c.	Mch.		1,000,000	20,000	50	436,000	June	1869	1 00	1,820,000	Mar.	1876	0 50														
Moose	Col.	39,000	2,000,000	200,000	10	*				550,000	Mar.	1878	0 25	10			3.20	3	3	2.95	3.05	3	3.05	2.95	3		1,300
National, c.	Mch.		500,000	20,000	25	195,000	Oct..	1875	1 00	360,000	Oct.	1873	1 00														
N. Y. & Colorado, g.	Col.		1,000,000	50,000	20	*				20,000	Mar.	1877	0 20		2						2				1.95		300
Northern Belle, s.	Nev.	1,600	5,000,000	50,000	100					1,425,000	Feb.	1878	1 00														
Ontario.	Uth.	3,000	10,000,000	100,000	100					1,700,000	Sept.	1878	1 00	12			40¼		40½				39⅝		39½		275
Ophir, g. s.	Nev.	675	10,080,000	100,800	100	3,236,000	June	1878	1 00	1,394,400	Mar.	1864	4 00														
Pewabic, c.	Mch.		500,000	20,000	25	185,000	June	1868	3 00	460,000	July	1873	1 00														
Phœnix, c.	Mch.		1,000,000	20,000	50	817,500	Sept.	1870	3 00	20,000	Jan.	1876	1 00														
Plumas	Cal.		1,000,000	100,000	10					60,000	Aug.	1878	10						4.15	4.10	4.20				4.20	4	800
Polar Star, g. s.	Col.	1,300	500,000	50,000	10	*				5,000	Jan.	1878	0 10						12⅞	12½	13	12¾					185
Quincy, c.	Mch.		200,000	20,000	10					2,230,000	Feb.	1878	5 00														
Raymond & Ely, g. s.	Nevada	5,000	3,000,000	30,000	100	600,000	Aug.	1878	1 00	3,075,000	Sept.	1873	3 00														
Ridge, c.	Mch.		500,000	20,000	25	200,000				90,000	Feb.	1875	1 00														
Rye Patch	Nev.	1,800		30,000		97,500	Nov.	1876	0 50	105,000	Dec.	1877	0 25														
St. Joseph, l.	Mo.	2,000 acs.	1,000,000	100,000	10					250,000																	
Savage, g. s.	Nev.	800	11,200,000	112,000	100	3,860,500	June	1878	1 00	4,460,000	June	1869	3 00														
Seaton, g. s.	Col.	1,700	500,000	50,000	10	*				10,000	May	1877	0 10	12	60c.		60c.						80c.	76c.			900
Sierra Nevada, g. s.	Nev.	3,650	10,000,000	100,000	100	2,050,000	July	1878	1 00	102,000	Jan.	1871	1 00	10													
Silver King										400,000	Aug.	1878	0 50														
Standard	Cal.			50,000		50,000	July	1878	1 00	450,000	Aug.	1878	1 00														
Tip Top	Ariz	1,500		100,000		120,000	Aug.	1878	50						1.85												
Yellow Jacket, g. s.	Nev.	1,200	12,000,000	120,000	100	3,798,000	Sept.	1878	1 00	2,184,000	Aug.	1871	2 50														25

Non-Dividend Mines.

Allouez, c.	Mch.		1,000,000	20,000	50	940,000	May	1876	5 00																				
Alpha, g. s.	Nev.	300	3,000,000	3,000	100	240,000	Mar.	1878	1 00																				
Am. Flag, g.	Col.	5,300	600,000	60,000	10	*									15c														500
Bertha & Edith. g.	Vir.	645 acs.	3,500,000	350,000	10	*									5c	4c	4c		5c	4c	4c					5c	4c	24,300
Best & Belcher, g. s.	Nev.	545	10,080,000	100,800	100	438,590	Apr.	1878	1 00																	31½		10
Buckeye	Col.		2,000,000	400,000	5	*									46c	43c	44c		43c		44c		51c	44c	53c	50c	7,700
Bullion, g. s.	Nev.	943⅛	10,000,000	100,000	100	2,952,000	Aug.	1878	1 50																		
Caledonia, g. s.	Nev.	2,188	10,000,000	100,000	100	1,440,000	May.	1878	0 50																		
Cashier	Col.		500,000	250,000	2	*																					
Cleveland, g.	Col.	3,715	250,000	25,000	10	*																					
Cons. Imperial, g. s.	Nev.	468	50,000,000	500,000	100	675,000	Apr.	1878	0 20						1⅛				1⅛	1.35							30
Con. N. Slope & E. C.T.	Col.	15,000	500,000	10,000	50	*																					
Dahlonega	Ga.		250,000	250,000	1	*									14c								15c	14c			1,400
Dana, c.	Mch.		500,000	20,000	25	68,000	Jan..	1863	0 50																		
Dawson, s.	Ont.		1,200,000	60,000	20																						
Duncan, s.	Ont.		1,200,000	60,000	20	75,000	July	1876	41⅔																		
Exchequer, g. s.	Nev.	400	10,000,000	100,000	100	380,000	Jan..	1878	1 00																		
Gold Placer, g.	Col.		5,000,000	200,000	25																						
Granville, g.	N. C.	357 acs.	1,000,000	100,000	10	*			0 50						31c	25c	29c	26c	27c	26c	25c	22c	24c	23c	25c	24c	18,600
Humboldt, c.	Mch.		500,000	20,000	25	100,000	Sept	1876	0 15						1.05	1							1		1		600
International, s.	Ont.		1,200,000	60,000	20														50c								100
Julia, g. s.	Nev.	3,000	11,000,000	110,000	100	525,000	Jan..	1878	0 75																7		65
Justice, g. s.	Nev.	2,100	10,500,000	105,000	100	2,653,500	Aug.	1878	1 50																		
King's Mountain, g.	N. C.		1,200,000	120,000	10	*																					
Lacrosse	Col.	3,900	1,000,000	100,000	10	*																					
Luzerne	Col.	4,200	5,000,000	500,000	10	*									28c	27c	28c	27c	27c		27c	26c	27c	26c	27c	25c	17,100
Madison, c.	Mch.		500,000	20,000	25	123,000	Sept	1876	0 10																		
Mariposa preferred.	Cal.	44,387	5,000,000	50,000	100	1,425,000	June	1877	1 00												2	1.70	2½		3		300
" common	Cal.	acres.	10,000,000	100,000	100	1,425,000	June	1877	1 00														2.10		2		600
Memphis	Col.	6,000	300,000	60,000	5	*																					
Mesnard, c.	Mch.		500,000	20,000	25	160,000	Apr.	1876	0 50																		
Mexican, g. s.	Nev.	600	10,080,000	100,800	100	217,400	May.	1878	0 50																		
Mt. Bross Tunnel	Col.	8,000	2,000,000	200,000	10	*																					
Overman, g. s.	Nev.	1,200	3,840,000	38,400	100	3,289,050	Aug.	1878	3 00																		
Osceola, c.	Mch.		1,000,000	40,000	25	2,567,280	Nov.	1877	3 00																		
Petherick, c.	Mch.		500,000	20,000	100	165,533	Mar.	1876	0 50																		
Pleasant View, g.	Col.	1,200	200,000	20,000	10	*																					
Quicksilver preferred.	Cal.	8,500	4,291,300			*																					
" common	Cal.	acres.	5,708,700	100,000	100																						
Rockland, c.	Mch		500,000	20,000	25	495,000	Jan..	1874	1 00																		
Seg. Belcher, g. s.	Nev.	160	640,000	6,400	100	244,800	Apr.	1876	5 00																		
Silver City, g. s.	Nev.	3,900	6,310,000	63,100	100	15,775	Nov.	1876	0 25																		
Silver Hill, g. s.	Nev.	5,400	10,800,000	108,000	100	1,242,000	July.	1878	0 50																		
Star, c.	Mch.		500,000	20,000	25	265,000	Mar.	1876	0 50																		
Superior, c.	Mch.		500,000	20,000	25	340,000	Mar.	1874	0 25																		
Union Cons. g. s.	Nev.	850	10,000,000	100,000	100	310,000	Apr..	1878	0 25																		

g. Gold. s. Silver. l. Lead. c. Copper. * Non-Assessable. + A dividend of 3¼ per cent. was declared on the preferred stock of this Co. in July, 1876.

Total Assessment levied to date ..... $2,166,040 | Total Sales of Coal Stocks for the week ..... 105,910 shares
Total Mining Dividends to date ..... 230,366,338 | Total Sales of Mining Shares for the week ..... 77,449 "

Central has been dealt in to the extent of 2010 shares at 33⅛@34¼, closing at 34⅛.

The New Jersey Central Mortgage.—A mortgage executed by the Central Railroad of New Jersey to Messrs. John S. Kennedy, John Edgar Johnson, and Jacob D. Vermilye, bankers of this city, as trustees to secure the payment of $7,500,000, was recorded in the office of the Register of this city on the 7th inst. The mortgage is given to secure the bonds issued under an agreement entered into between the stockholders and creditors of the company on February 23d, entitled "An agreement for the equitable adjustment of the affairs of the Central Railroad Company of New Jersey without a foreclosure." The mortgage covers the entire franchise, lease, rolling stock, and all other property of the company, and is of great length. It bears date May 1st, 1878, and recites among other things that the bonds secured by the mortgage, and which are mentioned as "adjustment bonds," are exchangeable for all outstanding bonds of the old issues of the company. The new bonds are made payable in 1903, or sooner, at the option of the company. The mortgage has also been recorded in every county in New Jersey and Pennsylvania through which the road runs.

The *Public Ledger* says: "It is understood that the New Jersey Central Railroad people are about preparing a statement of the business of the road during the past six months. It is said by the friends of this company that this report will show that the passenger and mercantile business has been better than for some years past, and it is estimated that the net earnings for the year will exceed $2,600,000, against $1,800,000 last year. This would be equal to 7 per cent on all the bonds, including the new onos issued under the re-organization, amounting to about $30,000,000, and leave in excess $500,000, or 2⅝ per cent for the stock. These are the outgivings, but, unfortunately, they are not reliably backed, though they may be based on truth."

Philadelphia Stocks.

PHILADELPHIA, Friday, September 13, 1878.

A very quiet market has characterized operations in the coal shares during the past week in Philadelphia, the total transactions scarcely reaching 27,000 shares. Pennsylvania Railroad stock exhibits a slight advance at the close, and with this exception there is nothing worthy of note.

The Lehigh Valley R. R. Co. has declared a quarterly dividend of one per cent, payable on the 15th of October. The stock of this company has ranged during the week at from 40 to 39, and closed at 39⅝, with sales amounting to 485 shares.

Gas Stocks.

NEW YORK, Friday Evening, September 13, 1878.

The market for gas stocks remains in the same inactive state as we noticed for some months past. The following changes have taken place during the week: Harlem from 75 to 70; Peoples', 20 to 30; Citizen's of Brooklyn, 73 to 75, and its certificates from 97 to 98.

The Peoria (Ill.) Gas Question.—The *Daily Transcript* of the 4th inst., in commenting upon the stand taken by the gas company against the city, supplies the following interesting data as a subject for comparison:

"In 1876, the People's Gas-Light and Coke Company, of Chicago, placed a loan of $2,500,000 on the London market. In their advertisement in the London *Daily News* they gave their earnings in round numbers for five years as follows:

1869	$230,000
1871	300,000
1873	387,000
1874	422,000
1875	495,000

"The advertisement stated that this income was earned on the share capital alone, and not upon a sinking fund of $479,367.63, which the company then possessed.

"Twenty-three years ago, the Cincinnati Gas Company was organized with a capital of $110,000. Eleven years ago, this capital was increased to $200,000. Now, it is over $3,500,000, on which dividends are declared so large that not a dollar of the stock can be purchased at any price. Nominally it is quoted at 300@400 per cent.

"The history of the gas companies in St. Louis, brought to the light by judicial proceedings, shows that the net profits divided among stockholders, from 1865 to 1875, amounted to $6,650,000.

"As regards the cost of making gas, some items are given. Nathaniel C. Nash reported to the Boston *Journal of Commerce* the following, as coming from 'engineer to president of a gas company':

	Lbs.
Coking coal at $8 per ton	51,830
Richie, coal at $24 per ton	790
	52,620
Cubic feet of gas made in 24 hours	262,105
Cubic feet of gas to ton of coal	11,150
Cubic feet of gas to pound of coal	4·79
Cost of gas per 1000 cubic feet	75 cts.
Candle-power	15

"The same party reported the cost of naphtha gas (made partly of coal and partly of naphtha) at 55 cents per 1000 cubic feet, with 19 candle-power.

"D. E. Bolton, Secretary of the Consolidated Gas Company, of Pittsburg, reported to his President the cost of the gas in the holder, made by his company in November, 1875, at a fraction below *thirty-three cents.* The daily average tests of this gas were from eighteen to twenty candle-power.

"The commission appointed by the courts in St. Louis to examine into the cost of making and selling gas in that city, reported it at $1.33. In Cincinnati the estimated cost varies between 54¾ and 91 cents. In Chicago responsible men have offered to erect works and make gas at 70 cents.

"Bellefontaine, O., erected its own works and reduced the cost in 1875 to $1.17 per thousand. The city sold gas to private consumers at $2.50@$3, but when the works are paid for they expect to supply citizens at $1.25.

"Wheeling, W. Va., took possession of the gas company in that city, paying by decree of court $76,500, and then $76,500 more in renewing them, and was enabled to reduce the price of gas in 1871 from $3.50 to $2.80. In 1874 the price was further reduced to $2.30, and in February, 1877, a still further reduction was made to $1.80. During the time the city has run the works it has paid all the expense of renewing them and $30,000 on the original cost. All this was paid out of the revenue derived from the works themselves.

"Portsmouth, O., got a reduction from $4 to $2.50; Steubenville from $3 to $2, St. Louis from $4.50 to $2.50, Chicago from $3 to $2.50, with concessions reducing it to $2.12; Cincinnati from $2.25 to $1.90."

We have frequently shown in these columns that the Lowe gas has been and is now being made with illuminating power fully up to any standard quoted by our contemporary, at a much less cost than mentioned in the above.

Montreal Gas Co.—This company has declared its fifty-second dividend. The rate is 5 per cent for the current half-year.

Bedford, Pa.—New gas works are being erected in this place.

Peoria, Ill.—The gas company at this place proposes to extend its mains in several directions, provided the City Council will order the usual number of street lamps along the lines of the mains so extended.

St. Joseph, Mo.—The price of gas at this place has been reduced from $4 to $2.50 per 1000 feet. This result was only brought about, however, after a contest of nine months between the city and the gas company, during which time the street lamps were not lighted once.

AUCTION SALES.

New York Gas-Light Co.—25 shares at 91¾ per share.
Manhattan Gas-Light Co—20 shares at 190 per share.
Brooklyn Gas-Light Co.—100 shares at 150½ per share.
Peekskill (N.Y.) Gas-Light Co.—59 shares at 101 per share

The following list of Companies in New York and vicinity is corrected weekly by GEORGE H. PRENTISS, Broker and Dealer in Gas Stocks, No. 30 Broad street, New York:

COMPANIES IN NEW YORK AND VICINITY.	Capital Stock.	Par.	DIVIDENDS. Rate per ann.	Am. of last.	Date of last.	QUOTATIONS. Bid.	As'd
	$		P. ct.				
Mutual, N. Y.	5,000,000	$100	6	1¼	July, '78	72	*76
" Bonds	90,000	1,000	6	3½	Aug., '78	.....	102
N. York "	4,000,000	.....	8	4	May, '78	90	95
Metrop. "	2,500,000	100	10	5	Aug., '78	129	135
" Certfs.	1,000,000	.....	7	3½	" '78	100	103
Harlem "	1,850,000	50	6	3	Feb., '78	70	80
Manhat. "	4,000,000	50	.....‡	5	May '78	180	190
Brooklyn, Bkln.	2,000,000	50	15	5	Apr., '78	145	157
Nassau	1,000,000	25	.....‡	3	July, '78	73	77
" Certfs.	700,000	1,000	7	3½	May, '78	90	97
People's	1,000,000	10	...‡	3½	Jan., '76	30	40
" Certfs.	300,000	1,000	7	3½	July, '78	75	85
" Bonds	325,000	.....	7	3½	May, '78	90	96
Metrop. "	1,000,000	100	5	2½	May, '78	60	67
W'msb'g "	1,000,000	50	8	1½	July, '78	75	80
" Certfs.	1,000,000	.....	7	3½	July, '78	95	100
Citizens'	1,200,000	20	...‡	3	July, '78	75	80
" Certfs.	320,000	1,000	7	3½	Apr '78	98	102
J. C., N. J	750,000	20	10	7½	July, '78	150	160
Municipal, N. Y.	466,000	50	.....	.....	.....	97	102
" Bonds	750,000	.....	.....	.....	.....	.....	...
.....	.....	.....	.....	.....	.....	.....	...

•Ex Dividend.

Copper Stocks.

Reported by WILSON W. FAY & Co., Brokers in Mining and Miscellaneous Stocks, Room 7, Traveller Building, 31 State street.

BOSTON, Wednesday Evening, Sept. 11, 1878.

The market during the past week has been dull and inactive, although a disposition to quietly purchase at present prices was apparent. The stocks show a decided improvement in prices from last week, and, judging from present appearances, a still further advance is not at all improbable.

The principal feature of the market was the advance in Calumet and Hecla from 177 to 179 bid and 180 asked, and sales up to 179½, the rise being caused, probably, by the reaction after the payment of the dividend.

Copper Falls remains steady, and is a little firmer if any thing, at 1⅝@1 11-16.

Franklin is also stiff, at 6½@7, and sales at 7.

Osceola has stiffened up to 9½ bid and 11 asked, and no sales.

Pewabic is quiet and unchanged.

Quincy has been quite active and strong, having advanced from 12½ to 13¼ bid, and 13½ asked, and sales up to 13. There is a general feeling on the street that Quincy is selling too low, and has been forced down for a purpose, and there are a great many who are, therefore, investing in it with a confident expectation of a rise.

Ridge is stronger, being 1⅝ bid and 1⅝ asked, and a sale at 1⅝.

Duncan remains quiet, at 3⅝@3⅞, and sales at 3¾.

International has fallen off slightly, having sold at ½, and closes 47@50.

Gold and Silver Stocks.

NEW YORK, Friday Evening, Sept. 13, 1878.

The business of the week under review shows a slight increase as compared with the previous one, although still being of but little importance compared with what it should be. With the still incomplete arrangements for dealing in the San Francisco stocks, there has been a good business at our Exchange as compared with the past. We note sales of these stocks as follows: California, 225 shares at $11⅞@$11; Consolidated Virginia, 535 at $12½@$13¾; Grand Prize, 10 at $6½; Consolidated Imperial, 30 at $1.50@$1.35; Julia, 65 at $7; Best & Belcher, 10 at $31½; Tip Top, 25 at $1.85; Independent, 760 at $2.75@$3; and Leviathan, 400 at $1@90c. In the stocks of the regular list, we note the following among the more important: Hukill 400 at $4; Moose, 1300 at $3.20@$2.95; New York and Colorado, 300 at $2@$1.95; Ontario, 275 at $40½@$39⅝; Plumas, 800 at $4.20@$4; Seaton, 900 at 60c.@80c.; and Granville, 600 at $1.05@$1. In the low-priced fancies the dealings have been as follows: American Flag, 500 at 15c.; Bertha and Edith, 24,300 at 5c.@4c.; Buckeye, 7700 at 43c.@53c.; Dahlonega, 1400 at 15c.@14c.; and Gold Placer, 18,600 at 31c@18c. The majority of the stock in this list of fancies has but little value beyond the position in manipulation, while there is hardly one, if any, that is not highly overrated in value, even at these figures.

There was not a sale of American during the whole week. The dividend announced at the beginning of the month has not been paid, owing to a lack of funds. It is a well-known fact that this company has not been earning its dividends for a long time, if ever. The company's mines may be good ones, but the value, as represented by the selling price of the stock in this market, has all along been entirely too great. This stock was at one time quoted above par $10 per share. We then called attention to the extravagant price that was being asked for it, and were told that we were ruining the prospects of good mines being placed in the Eastern market. To-day 1000 shares of the stock could not be sold at one third of the par value, while if one tenth were paid, the buyer would be dependent on further strikes to make his investment a good one.

We draw attention to our mining news for very flattering advices from the Hukill. We wish this enterprise success, and are glad to hear that rich ore has again been struck, and that more extended operations will soon be inaugurated, with prospects of good dividends to the stockholders.

The arrangements for dealing in the San Francisco stocks are yet incomplete. Quotations have been received through a news agency, and have arrived at the Exchange too late for large dealings during the regular hours. Before any confidence can be placed in these quotations, the Mining Exchange will have to make arrangements with some perfectly reliable party in San Francisco, who will forward dispatches with as little delay as possible, directing them to the Secretary of the Exchange, and not have them pass through outside hands. The news agencies have furnished us with some very unreliable quotations of late, a fact well known to the press, if not to the public.

Messrs. Trask & Francis opened subscription books of the Findley Gold Mining Company, of Georgia, yesterday, and the subscriptions for working capital have been made so rapidly that they expect to close the books to-morrow.

We have official information that the La Ligua Gold Mining Company, of Chili, started its hydraulic operations July 20th. The company has issued a new prospectus, giving much more information than the previous one issued.

Advices by telegraph from the expert sent to examine the Penobscot mine say: "Am in every way pleased with the Penobscot." A full report will follow by mail.

SAN FRANCISCO MINING STOCK QUOTATIONS.

Daily Range of Prices for the Week.

NAME OF COMPANY	CLOSING QUOTATIONS. Sept. 6.	Sept. 7.	Sept. 9.	Sept. 10.	Sept. 11.	Sept. 12.*	Opening Sept. 13.
Alpha	14	13¾	14⅛	15⅛	15¾	.....	16
Belcher	12⅛	13	13⅜	15⅝	13⅛	.....	12⅛
Best & Bel.	23	24	24⅛	26½	28⅝	.....	35
Bullion	9⅝	8⅞	9⅝	11	12⅛	.....	15
Caledonia	3¾	3¾	4	4⅛	4⅛	.....	4⅛
California	12⅛	11⅝	10⅞	11⅜	11⅛	.....	12
Chollar-Pot	36½	36¾	36¾	39	46	.....	49
Con. Imp.	.....	.....	.....	.....	.....	.....	.....
Con. Va.	12⅝	12½	11⅝	12⅜	13	.....	13
Confidence	8¼	7⅞	8¼	8⅝	8¾	.....	.....
Crown P'int	9	10½	11	12¼	11⅛	.....	11¼
Eureka Con	42	41½	41½	41	42	.....	42
Exchequer	5½	5⅛	4⅞	5⅛	6	.....	6¼
Gould &Cur	12¼	11⅞	13	14⅝	17¾	.....	21½
Grand Prize	6⅜	6⅛	6¼	6⅛	5⅝	.....	5½
Hale & Nor.	9¾	9⅝	9⅞	10¾	15⅞	.....	17
Julia	7⅞	7	6¾	7	8	.....	6⅛
Justice	10	9⅞	11⅛	10½	9⅞	.....	10
Kentuck	5⅜	6⅛	6½	.....	6½	.....	6
Mexican	43½	45¾	50	55½	56	.....	63-61
North. Belle	10¾	11	10½	10	9¾	.....	10
Ophir	48½	49	53½	54½	53	.....	55-52
Overman	16¾	16⅝	17	20½	19¼	.....	20-19
Ray. & Ely	4½	4½	4½	4¼	4½	.....	4½
Silver Hill	.....	.....	4	3⅞	3¾	.....	.....
Savage	13	13½	13⅝	15½	19	.....	21½
Seg.Belcher	37	.....	37	43	44	.....	.....
Sierra Nev.	96	96½	109	140	159	.....	†
Union Con.	80	84½	88½	98¾	113	.....	‡
Yel. Jacket	20	.....	23¼	24¼	25½	.....	25

* Wires down west of Omaha. † 190@180. ‡ 110@120.

A continued advance in nearly every stock along the line has taken place in the above list; the principal appreciation has been, of course, in the stocks of the New Bonanzas—Sierra Nevada and Union Consolidated. In the former stock the price has gone up as high as $220 per share, but quickly settled back

again and opens to-day at $180@$190, an advance of $100 per share for the week. The reports of the "new find," as published in the Pacific Coast papers, indicate without exception that this company is really in bonanza. Private advices from our correspondent state that a series of assays taken by various parties from the nine feet of ore exposed new cross-cut averaged $179.79 per ton.

Our exchanges report a rich strike in Julia, but the quotations scarcely sustain the rumors, the opening price to-day of 6½ being the lowest for the week.

The stock of the Eureka Consolidated Mining Company can not apparently relieve itself of the depression which has settled upon it; the opening price of the stock to-day was $42 per share. This is a slight improvement on the quotation recorded a week ago.

On the other hand, one of our correspondents says, in another column, that private advices report the mine as not having more than three months' ore in sight. This, however, he qualifies.

An official letter from the mine, dated the 1st inst., says:

"There is very little change to report in the general condition of the mine; every thing is looking about the same as mentioned in last report. The ore-bodies continue to yield largely, without any apparent diminution of the ore supply in sight. There have been 226 feet of raises and winzes made during the week on the various levels."

With reference to the outlook in the Eureka District, the *Sentinel* says:

"The Fureka and the Richmond Consolidated are still yielding handsomely, the former about 6000 and the latter fully 5000 tons of ore monthly. These are the two deepest-worked mines in the district—Eureka 1200 and the Richmond 900 feet deep. The former's shaft is on higher ground, which accounts for the Richmond's 900-foot level, in reality, being deeper than the 1200 in the Eureka. A portion of the Eureka Consolidated ground has been prospected to the 1100, and the Richmond Consolidated 20 feet below the 500-foot level. The lowest prospected depth in both shows a better average quality of ore than was found in any of the levels above, although the width was not so great. The great mineral belt on which these two and other mines are located, and from which so many millions have been extracted, can be traced for fully eight miles. Its width, like that of the great Comstock lode, varies from one to fifteen hundred feet."

Various rumors are afloat regarding the efforts among capitalists and former bonanza-owners to become possessed of the controlling interests in the new bonanza. Our correspondent observes with reference to this:

"President Skae has stopped the cross-cut in Sierra Nevada, and right in the ore. This is very wise from his stand-point, as it leaves the public to conjecture the extent of the 'bonanza.' The latest are rumors giving a consolidation of President Skae with Jim Fair and his rings, as the latter found a match in Skae. There is no telling what is in it, *but if true*, I think, would not act beneficially on Comstock interests."

Our correspondent further suggests that the abundance of money now in San Francisco, realized from the spendid wheat and other crops, may afford a good partial explanation for the ready disposition which is manifested to operate in stocks. Union Consolidated opens to-day at $110@120. This stock has shown gradual appreciation during the business of the week.

The *Commercial Herald* of the 4th inst. thus reviews the market:

"The week under review saw another exceedingly active mining stock market, showing an excitement not equaled in a number of years past, and reminding one very much of the palmy days of the stock business. The call of stocks was very large, and the efforts to place them most frantic in many instances. As usual, the participation of wildcats under this state of the market was heavy, and the aggregate sales in the regular sessions of the San Francisco Board reached $6,000,000. Of course a very large percentage must be allowed for the supposed sales, which are always made to a greater extent whenever so good an opportunity presents itself. The advance in the north end claims on the Comstock puts matters into a fever heat, stimulating every thing; and this, coupled with favorable reports from outside districts, gives quite an encouraging outlook for the future gold and silver mining interests of the coast.

"Consolidated Virginia and California show a yield of $152,500 and $158,900 respectively to date for the month of August. They are not now the center of attraction in the stock arena Sierra Nevada is the leading stock of the market, selling as high as $107½ the past week. Over 10,000 shares changed hands in the regular sessions of the San Francisco Board. The combination on this stock is unexpectedly strong, and the contest for control is waxing fierce; however, the benefit is general, producing an activity that permeates every department of the market. All sorts of rich strikes are reported, and our hope is that permanency of large production may result in every direction."

Ophir shows a decided improvement, as also does Mexican, this stock selling now at a market value of over $6,000,000. Chollar-Potosi, Best & Belcher, and Gould & Curry are all prominent in the advance movement. Grand Prize stock has shown considerable improvement during the business of the week, but opens to day, however, at the lowest of the week.

The weekly sales on the San Francisco Board average now about 5000 shares. Recent information from the mine says that the pump in the new shaft is working smoothly, and that the company's mill is employed on ore from the Independence mine.

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